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# THE MODERN TREATMENT OF FUNCTIONAL NERVOUS DISORDERS.

A BRITISH MEDICAL ASSOCIATION LECTURE DELIVERED TO A JOINT MEETING OF THE NOTTINGHAM DIVISION AND THE NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY, JANUARY 7TH, 1920.

BY

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"FUNCTIONAL NERVOUS DISORDER" is a loose and decidedly unsatisfactory term, employed to designate hysteria, neurasthenia, and a number of other closely allied conditions. It is, indeed, rapidly falling into disuse, and its place is being taken by another term more in accord with modern views concerning the nature and etiology of the disorders in question. The newer name is "psychoneurosis," and behind the change in nomenclature there lies a wide-reaching revolution in our conception of these conditions. This revolution in thought, and the radical alteration in methods of treatment which has naturally resulted from it, form the subject of the present lecture.

## DEVELOPMENT OF THE CONCEPTION OF "PSYCHONEUROSES."

During mediaeval and earlier times the phenomena of hysteria and neurasthenia were explained by conceptions which have now merely an historical interest. Such, for instance, was the hypothesis that ascribed hysteria to the wanderings of the uterus about the body—a hypothesis to which hysteria owes its name. During the nineteenth century, however, the views held with regard to these disorders crystallized into a form consistent with the outlook of scientific medicine, and a conception developed which may be described as follows. Hysteria, neurasthenia, and similar conditions are affections of the nervous system characterized only by alterations in function, and not by any discernible structural lesion, but due to causes similar in kind to those producing other forms of disease. It is to this conception, of course, that the term "functional nervous disease" owes its origin. Now the modern conception of the psychoneuroses departs fundamentally from the view just described in that it believes these conditions to be the result, not merely of causes similar in kind to those producing other forms of disease, but of causes which play a relatively insignificant part in the field of general medicine—namely, mental or psychic factors. The first definite advance in this direction was made by Charcot when he demonstrated the part played by "ideas" in the causation of the symptoms of hysteria. During the last quarter of the nineteenth and the early years of the present century this psychogenic theory, as we may call it, underwent a great development in the hands of the workers who succeeded Charcot, amongst whom may be mentioned particularly Janet and Dejerine in France, Dubois and Jung in Switzerland, and Freud in Austria. The theories and practice of these and other investigators have diverged from one another in so many respects that it is easy to overlook the essential fact that they are one and all built upon a common basis. Nevertheless, this common basis undoubtedly exists, and it is constituted precisely by that psychogenic theory whose advent we have described. It may be expressed as follows.

*The psychoneuroses, comprising hysteria, neurasthenia, and other allied conditions formerly termed functional nervous disorders, are the result of causes amongst which mental or psychological factors play a predominant part.*

During the early years of the present century the psychogenic theory was adopted by most of the workers who devoted themselves to the study of this branch of medicine, and our experience of the vast crop of functional disorders which developed during the war has so amply confirmed and strengthened it that it has now been accepted by the great majority of those qualified to express an opinion on the subject. It underlies practically all modern forms of treatment, and the consequences of its acceptance are so momentous that it is necessary to grasp firmly its significance and to appreciate accurately its scope and limitations.

To begin with, it does not mean that psychical causes alone are concerned in the etiology of the psychoneuroses, and that physical causes play no part. On the contrary, such factors as fatigue, the toxic and other effects of illnesses, the physiological disturbances produced by high explosives, may clearly have considerable etiological importance, and one condition of probably very great moment in the production of the psychoneuroses, "constitutional predisposition," can hardly be conceived in other than physical terms. It is only implied that, although both physical and psychical causes may co-operate in producing a psychoneurosis, the latter play an essential part, so essential a part that if they can be removed or modified the psychoneurosis itself will be removed or modified. Nor does the psychogenic theory mean that the causes we now call psychical, emotional disturbances, mental conflicts, and so forth, may not ultimately be capable of expression in anatomical and physiological language. It is only maintained that, in the present state of our knowledge, we can express these processes in psychological terms, and explain them by psychological laws, much more profitably than by the conceptions of anatomy and physiology. More profitably, because by treatment based on these psychological laws we can mould the chain of causation so that the morbid condition disappears, and thereby achieve that practical result which is the aim of all scientific method.

### *Psychotherapy and its Methods.*

If we accept the psychogenic theory of the psychoneuroses our methods of treatment will obviously be profoundly affected thereby, because therapeutics is necessarily dependent upon etiology, and if we regard the psychoneuroses as due in large part to psychical causes, then our treatment must be one which aims at the removal or modification of those causes. Now it is clear that if we have to deal with psychological causes we must employ psychological methods—that is to say, we must practise some form or other of psychotherapy. This recognition of the place of psychotherapy in the sphere of the psychoneuroses constitutes the essential feature of modern methods of treatment.

We must pass on to consider, therefore, the procedures of psychotherapy and how they may be applied to the psychoneuroses. There is a common impression that psychotherapy is synonymous with suggestion, and that suggestion is the only weapon with which we may deal with psychological conditions. This impression is, of course, altogether erroneous, for suggestion is only one weapon, and by no means the most important or the most widely applicable. A more painstaking inquiry into the subject seems to reveal, indeed, a great multiplicity of methods, and a number of schools of thought so widely different from one another in theory and practice that one is tempted to believe that there are almost as many methods as there are writers. We find authors who advocate the employment of suggestion, some employing hypnosis, others suggestion by the aid of electrical contrivances or other means. We find authors who repudiate suggestion as useless or harmful, and who practise persuasion and re-education, endeavouring to attain their ends by logical argument with their patients. Other schools regard both these methods as inefficient, and insist that it is necessary to carry out more or less profound analyses of the patient's mind in order to alter its functioning. Of these latter one school in particular—the psycho-analysts—have devised elaborate procedures, based on certain theories of the nature of mental processes, which they hold to be essential in the treatment of these cases. These divergences in thought and practice, important though they no doubt are, nevertheless are not so fundamental as they at first sight appear to be. All psychotherapeutic procedures are necessarily based on the psychogenic theory we have described; careful investigation shows that they all consist in the employment of a few basic processes, and the differences between the various schools resolve themselves largely into differences concerning the particular causal factors selected for attack. It is obviously impossible in a single lecture to consider in detail the methods and merits of the different schools, and I shall confine myself here to an attempt to set out the essential principles of all psychotherapy, and to illustrate

the application of these principles in certain selected cases.*

### THE GENERAL PRINCIPLES OF PSYCHOTHERAPY.

As the object to be attained is the removal or alteration of certain mental factors, it is obvious that every scientifically conceived method of psychotherapy must involve two processes: Firstly, the ascertainment of the particular mental factors responsible for the morbid condition; and secondly, the carrying out of procedures designed to eliminate or modify those factors. These two processes may be termed "analysis" and "rectification."

Analysis consists in deducing the nature of the causal factors from the signs we are able to observe ourselves, and from the information which the patient is able to give us, and it necessarily presumes, therefore, a knowledge of the way in which the mind works, and of the effects which its workings may produce. That is to say, analysis presumes a knowledge of psychology and psychopathology. Sometimes the deduction required is simple, and can be made by the help of the everyday psychology which we all possess; in other cases it is complicated and difficult, and necessitates an expert acquaintance with psychopathological processes. It must be realized that the causes in question generally do not lie on the surface of the mind, but are hidden, not only from our immediate observation, but also from the patient's own introspection. They have to be ascertained by a process precisely analogous to that whereby we deduce, from the signs accessible on the chest wall and the symptoms displayed by the patient, the nature of hidden changes occurring in the lungs. In the psychoneuroses we generally find that the causal factors occur in layers, as it were—that is to say, analysis first discloses superficial conditions which are immediately responsible for the symptoms present, then behind these deeper lying causes, until ultimately we get back to emotional disturbances rooted in the interplay of the great instinctive forces of the mind. How far back in this series analysis has to be carried varies in each individual case, but it is clear that for efficient treatment it must be carried sufficiently far back to enable us to modify the causal chain so that the disorder is no longer produced. It is also clear that without this preliminary analysis, without a reasonable knowledge of the causal conditions present, all attempts at therapy must be haphazard and inadequate.

Rectification, the modification of the causal factors discovered by analysis, may be carried out by the aid of many different weapons. We may endeavour to alter the mental processes responsible for the morbid condition by persuasion and re-education, or we may make the patient clearly cognizant of their nature and action, and teach him to deal with them consciously and efficiently rather than in the haphazard manner which has produced his neurosis. Again, we may press into our service all the emotional forces which can be utilized to modify these processes, either those available in the patient's own mind, such as his ambitions, interests, self-respect, religion, or those which can be applied from outside. These last are practically all included in the conception of "suggestion." Different schools of psychotherapy rely mainly on one or other of these various methods, but the practising physician will do well to regard all of them as useful, and to be employed according to the requirements of the individual case and the end which we wish to attain.

The essential principles of all psychotherapy consist, then, in the elucidation of the psychological factors which play a part in the etiology of the psychoneurosis, and the subsequent employment of every weapon which will serve to modify the patient's mental processes in the desired direction. I shall now endeavour to make clear the manner in which these general principles are applied in practice by the description of some typical psychoneurotic conditions, and the methods of treatment available for them.

### FUNCTIONAL DYSPEPSIA.

The first case we will consider is that of a middle-aged woman, who complains that she is only able to take small quantities of milk and fish, and that she suffers from severe digestive disturbances, pain, and vomiting if she attempts a more varied diet. She has lost a considerable amount of weight. Careful examination discloses no evidence of any organic disease, and we conclude that the condition is purely functional. In our search for psychological factors which may have played a part in its causation we elucidate the following history. Six months ago the patient lost her husband, and she passed at this time through a period of great emotional stress. During this period the digestive disturbances began, and she became apprehensive that some serious organic disease was present. She gradually devoted more and more attention to her digestion, carefully testing and observing the effects of different articles of diet, and cutting off those foods which appeared to produce unfavourable results. Finally she reached her present stage in which only milk and fish are tolerated.

With the aid of some very elementary psychopathological knowledge the genesis of this case can be made clear. During the period of great emotional stress some digestive disorder appeared, owing to the normal physiological effects produced on the secretions by emotional disturbance. The patient's attention became fixed on this phenomenon, and vague apprehensions that some serious disease was present passed through her mind. As a result she began to be preoccupied with the functions of her stomach, and instituted the phase of testing and observation which we have described. Now preoccupation of this kind, with the process of auto-suggestion which accompanies it, not only breeds a conviction in the patient's mind that the digestive organs are deranged, but it actually tends to derange their functions. What should have been a merely transient phenomenon therefore becomes fixed, a vicious circle is set up, and the patient's anxious apprehensions concerning the effects of each article of food inevitably lead to an increasing limitation of diet. Finally, the stomach acquires the habit of only tolerating milk and fish.

In considering what treatment should be applied to this case the "layers" of causes which have to be taken into account, proceeding from proximate to more remote, are, firstly, the habit which the stomach has acquired; secondly, the preoccupations, apprehensions, and auto-suggestions which have produced this habit, and finally the emotional disturbances which have initiated the chain of causation. Clearly we have to deal with these various causes, and generally it will be found profitable to begin with the second group, the preoccupations and apprehensions. For this purpose we may employ "persuasion." The nature of the disorder must be fully explained to the patient, it must be made clear to her that no organic disease exists, that her organs are perfectly normal, but that their functions have been disturbed by the attention to which she has subjected them, and that as a result of this her stomach has formed certain bad habits. When the preoccupation and suggestion factors have been removed by these means, attention must next be directed to the habit factor, and the most suitable weapon here will clearly be "re-education." The digestive organs have to be educated to deal once more with a normal diet. The guiding principle constantly to be kept in view is that the process must be gradual but continuous. To begin with, the patient is given the milk and fish diet to which she is accustomed, but she is informed that meat and other foods will be gradually added with the object of training the stomach back to its former capacities. On the following day a piece of meat the size of a small pea is added to the fish meal. Generally this will be digested without ill effects, but should this not be the case a still smaller piece is employed. On the next day a slightly larger quantity of meat is added, and similar additions are made on each successive day. Other articles are introduced according to the same principle, until a full ordinary diet has been once more attained. Usually this end can be achieved within one or two weeks.

Whether or not it is necessary to deal with the more remote causes, the emotional disturbances ultimately responsible for the condition, must be carefully considered in each individual case. In many instances these disturbances are of a purely transitory character, and here the treatment described will be all that is necessary to achieve a satisfactory result. Occasionally, however, emotional factors of a more active and persistent type are present, and these must then be traced out and adjusted before a stable cure can be effected.

A word of warning may be given here with regard to a

* The relations between the various schools of psychotherapy have been dealt with in a paper by the author entitled "The Methods of Psychotherapy," *Proceedings* of the Royal Society of Medicine, 1918.

danger constantly to be kept in mind by every practitioner. Psychogenic disorders are not only capable of being favourably influenced by suitably adapted psychological methods of treatment; they are also capable of being unfavourably influenced by pernicious psychological factors carelessly and unthinkingly introduced by the practitioner himself. This danger is very real in cases of the type just described. Suppose, for example, that we submit our patient to frequent elaborate examinations without assuring her after each such examination that its result conclusively shows that no organic disease is present, that we discuss before her the possibilities of ulcer or carcinoma, and that we then subject her to a carefully regulated diet and a complicated drug therapy. It is easy to see that treatment of this kind, so far from removing the psychogenic factors responsible for the condition, will directly enhance and strengthen them. The patient's apprehensions that she is really suffering from organic disease will be confirmed, the preoccupations will be intensified, the symptoms will become more pronounced, and the difficulties of subsequent rational treatment greatly increased.

### Conversion Hysteria.

The name "conversion hysteria" is applied to a group of cases characterized by obvious bodily disabilities, including such conditions as functional anaesthesias, paralyses, contractures, morbid postures and gaits. I will select for examination a typical case of hysterical mutism, a disorder which is to be regarded as an instance of functional paralysis.

A soldier was knocked over and partially buried by the bursting of a shell, but did not sustain any discernible injury beyond a few bruises. When extricated he was conscious, but dazed and unable to speak. The confusional condition rapidly cleared up, but the inability to speak has persisted, and exhibits the well-known characters of hysterical mutism. The patient understands everything said to him, and can write, but he is unable to make any articulate sound, although he can move his lips, tongue, and so forth, in any way required of him.

If we investigate the psychogenic factors responsible for this condition, we find that the proximate cause is the existence in the patient's mind of a certain conviction. He is convinced that he cannot speak, and the actual inability to speak follows from the conviction by a simple and direct psychological process. Behind this proximate cause there lie a series of more remote causes comprising emotional disturbances of various kinds, ultimately rooted in the great instinctive forces of the mind. The nature of these emotional factors cannot be dealt with here in sufficient detail to enable them to be reasonably understood, but it may be said that in war psychoneuroses of this type the predominant factor generally consists in an inability on the part of the patient to adapt himself to the situation in which he has to exist. This situation stimulates intensely the great forces which may be summed up as the instinct of self-preservation with its concomitant emotion of fear. These forces, whose unhindered action would lead to the individual promptly removing himself from the place of danger, are opposed by other almost equally powerful forces—duty, self-respect, discipline, and so forth. There thus arises an intense mental conflict, and this conflict, the manner in which it affects the mental organism, and the patient's inability to deal with it satisfactorily, form the more fundamental causes responsible for the patient's breakdown.

These two groups of causal factors—the conviction in the patient's mind that he is unable to speak and the more remote emotional disturbances just described—constitute the etiological conditions against which our treatment must be directed. The proximate cause, the patient's conviction of his disability, can be dealt with by various methods, the object of all being to substitute for the pathogenic conviction one of precisely opposite character—that is to say, to replace the patient's belief that he cannot speak by the belief that he can speak. Suggestion, for example, may be employed, either by hypnosis or some other means. The patient may be hypnotized, and while in this state the suggestion may be conveyed to him that he is now, and will continue to be, able to speak; or he may be informed that an electrical current will be passed through his neck, and that immediately this is done he will recover his voice. In either case, if the suggestion be successful, the conviction that he can speak is implanted in the patient's mind, and directly this is achieved the disability will disappear. Or, again, this end may be attained by the use of persuasion and re-education, the procedure then being as follows: It is explained to the patient that examination has shown that all the organs of speech are perfectly healthy, that he has merely forgotten now to use those organs, and that it is proposed to teach him how to recover that use immediately. He is then told that if he fills his chest, opens his mouth, and blows out his breath, he will make the sound of "ah." This result follows, of course, inevitably. The sound of "e" is next produced by instructing him to open the lips, approximate the teeth, place the tongue against the lower teeth, and again blow out the breath. Other vowel sounds can be similarly taught, and one then passes on to consonants. The patient is told to close his lips and then to separate them smartly, blowing out the breath at the same moment, thereby producing the sound of "pah." By these methods the patient can be taught to make any required sound, but it is not, of course, necessary to go through all the sounds in the English language. It must always be remembered that our aim is merely to destroy the patient's conviction that he cannot speak. This conviction is shaken directly he makes the first articulate sound, and it is generally removed altogether by the time he has articulated a few vowels and consonants. He then realizes that his disability no longer exists, and the capacity for speech returns at the same moment. The method of treatment described tends to produce in the first place an aphonic and not a voiced speech; but this defect can be remedied by the employment of similar means, and must not on any account be allowed to persist.

The proximate cause of the disorder having been dealt with in one of these ways, the question arises as to whether, and to what extent, it is necessary to attack the more remote causes. The nature of the latter have been already explained, and unless they also can be removed, it is obvious that the destruction of the proximate causes, the breaking of the chain of causation at its penultimate link, cannot effect a complete and permanent cure. The symptoms will perhaps disappear for the time being, but the original source persists and a fresh outbreak of the same or similar symptoms is always possible. Clearly, therefore, efficient treatment requires that these underlying emotional disturbances should be adjusted. Time does not permit of any detailed description here of the methods by which this end may be attained, but it is evident that the conflict described in a former paragraph will have to be investigated and an attempt made to adjust the warring forces involved. This may be done partly by making the nature and action of these forces clear to the patient himself and instructing him how he may control them consciously and deliberately, partly by pressing into service all those emotional forces in the patient's mind—self-respect, ambition, interest, and so forth—which can be used to aid that control. In many cases of the type now under consideration we shall find that the patient's constitution is such that it cannot deal with the stresses of war, and adjustment will then only be possible by altering the environment in which he has to live—that is to say, he must cease to be a soldier.

The principles dealt with above enable us to understand the well-known clinical observation that, though it is easy to remove hysterical symptoms, it is difficult to ensure that relapses and the outbreak of fresh symptoms do not occur. They provide, moreover, a gauge by which we may measure the merits and demerits of rival methods of treatment, according as they endeavour merely to remove the patient's symptoms, or to attack the more fundamental causes of which the symptoms are only an expression.

### Anxiety Neuroses.

We may now pass on to consider a type of case for whose treatment a more advanced knowledge of psychological processes is required, and we may select for this purpose another example of a war psychoneurosis, of a kind to which the name "anxiety neurosis" has been applied.

A soldier after some months of service at the front, including several episodes of a particularly distressing character, breaks down, and when we see him some weeks later presents the following clinical picture. As he enters the room we observe a generalized tremor, much accentuated by any emotional disturbance; he starts violently

when the door shuts behind him, and we note that the palms of his hands are wet with sweat. He tells us that his sleep is disturbed by dreams, in which he is once more fighting in the front line, and from which he wakes in terror. These dreams are a frequent feature of the war psychoneuroses, and have been generally christened by the name of "battle dreams." The patient complains, moreover, that he is unable to concentrate his thoughts, and that he becomes promptly fatigued whenever he attempts any physical or mental exercise.

When we investigate the psychological factors responsible for this condition we do not find any "conviction" comparable to that which constituted the proximate cause in the hysterical case previously considered. On questioning the patient, however, we soon discover that he displays a certain noteworthy attitude towards the experiences he has passed through in the war. If we ask him whether he ever thinks of his life in France, he promptly replies that he does everything he possibly can to avoid thinking about it. He carefully occupies his mind with other things to prevent the memories of what he has endured entering consciousness, avoids any newspapers or other literature which might recall them to him, and turns away whenever his comrades introduce the subject of the war. He points out, moreover, that if in spite of his efforts the forbidden memories force themselves upon him, he immediately becomes agitated, tremulous, and terror-stricken. In a word, he finds that certain memories are inexpressibly painful to him, and he therefore endeavours to keep them at arm's length and so far as he can to forget them.

Now this attitude is not a mere symptom to be added to the list of those already described; it is an actual cause of the latter. In order to understand how this may be it will be necessary to devote a moment to the consideration of certain psychological principles. When the memory of an important emotional episode is thrust out of consciousness it does not thereby cease to exist. It is merely driven beneath the surface of consciousness, as it were, imprisoned in the depths of the mind, and prevented from entering consciousness by the interposition of a barrier. This barrier is not, of course, an actual entity, but is constituted by those psychological processes of repulsion, occupation of the mind with other things, and so forth, which have already been described. The barrier prevents the direct entry of the offending memories into consciousness, but it cannot prevent them from influencing consciousness indirectly, and thereby producing certain characteristic symptoms.

Applying these principles to the case under consideration the actual state of affairs may be stated as follows: The patient's war memories are subjected to the "repressive" process which has just been described, and are thereby prevented from entering consciousness directly. Nevertheless, certain elements of the offending memories influence consciousness indirectly, and are responsible for the tremors and "jumpiness" which we observe in our patient. These last may be regarded, of course, as physiological manifestations of the fear which attaches to the buried memories. Again, although the barrier can be maintained during the hours of waking activity, it is inevitably relaxed so soon as the patient composes himself for sleep, the memories emerge into consciousness, and the resulting emotional agitation accounts for the patient's insomnia. When sleep does finally supervene the barrier is almost completely removed, and the released memories are thus free to provide the material of the well-known battle dreams. Lastly, the exhaustion of energy produced by the lack of harmony and conflict in the patient's mind explains, in some part at least, the rapid fatigue which arises whenever any mental or physical exercise is attempted.

So soon as the existence of this mechanism has been ascertained the main indication for treatment is at once obvious. If the repression is responsible for the symptoms the repression must be removed. In the first place, the state of affairs must be fully explained to the patient, and he must be made to understand that his attitude, although apparently dictated by common sense, is really the immediate cause of his troubles. The explanation is not difficult, and can be put into language easily comprehensible to men of mediocre intelligence and education. The next stage is to instruct the patient how this attitude may be corrected. The objects to be attained are clearly the abolition of the barrier and of the repulsion which has produced that barrier. Translated into everyday language, this means that the patient must get used to his war memories, so that he may regard with comparative equanimity those past events whose recollection now fills him with anguish and terror. He must be persuaded to describe them fully to the physician, to face them squarely rather than to shun them, and to accustom himself to discuss them with his comrades. To begin with, the process will be extremely painful and distressing, but this aspect will steadily diminish with the continuation of the treatment. The abolition of the repulsion is aided materially by constantly impressing upon the patient that the events in question are past and are now merely memories, and by endeavouring to elicit every circumstance which will place them in a more favourable and less distressing light. That is to say, every means must be used to alter the perspective in which these memories are regarded, so that they will no longer be outlaws in the mind, as it were, but will fall into their proper place in the mental structure.* When this reintegration of the repressed elements has been attained, when the patient can describe and discuss the events of his war experience with equanimity, then the symptoms due to the repression will naturally disappear.

In cases of this type it will be found that, behind the proximate causes just dealt with, there lie more remote causes of much the same nature as those elicited in the hysterical case described in a preceding section. Here also these causes must be taken into account and suitably treated if a satisfactory result is to be attained. Finally, a process of re-education must be carried out, in order to train the mental and physical activities gradually back to normal functioning.

### General Principles.

It will be observed that two out of the three cases which have been selected for description are war cases. This circumstance is not entirely fortuitous. Owing to the comparatively simple character of the psychogenic factors in the pure war psychoneuroses, and the corresponding simplicity of analysis and treatment in these cases, they are admirably adapted for a demonstration of the essential nature and principles of psychotherapy. A large number of the psychoneurotic cases met with in civilian practice have a far longer history, and a correspondingly more complicated etiology and structure, and their treatment therefore requires more elaborate methods and a more extensive knowledge of psychopathology. Nevertheless, the broad principles which have been described hold good here also, and so long as they are constantly kept in view the problem presented by each individual case can be satisfactorily attacked.

A careful examination of the cases considered in this lecture will disclose the fact that in each instance the patient has failed to adapt himself adequately to a particular situation, and the psychoneurosis has arisen because the psychological factors in that situation have been wrongly adjusted. This is the characteristic feature of all the psychoneuroses, both of war and peace, and once it is grasped it becomes clear that the only rational treatment for these conditions must consist in the elucidation and adjustment of the factors which are at fault. In the light of this principle, the futility of rest cures and voyages is immediately apparent, for the patient's troubles are in his mind, and he takes them with him wherever he may be sent. A rest cure may be an excellent adjuvant measure, and a voyage may be a valuable help in convalescence, but unless the factors responsible for the disorder are properly dealt with, both are worse than ineffectual. The physician who undertakes the treatment of these cases must not be satisfied until he has ascertained the situation to which the patient has failed to adapt himself, the psychological factors which have conditioned the lack of adjustment, and the mode in which these factors have acted. If I were required to sum up in a sentence the essential features of the modern treatment of functional nervous disorders, I should say that they consist in taking into account not only the physical antecedents of the patient, but also his psychological antecedents, and in the devising of methods whereby the morbid psychological processes can be rectified.

* For a fuller description of this method of treatment see W. H. R. Rivers, Repression of War Experience, *Proceedings* of the Royal Society of Medicine, 1918.

In conclusion, it may be pointed out that in the space of a single lecture it has naturally been impossible to attempt more than a sketch of general principles, and the cases selected for description have been dealt with in an unduly simplified manner in order to bring into relief the facts essential for our purpose. Throughout the lecture, moreover, emphasis has been laid on the psychological factors in causation and treatment, because the recognition of their importance is the keynote of modern methods of treatment.

This must not be taken to mean, however, that physical factors are of no account in these disorders. On the contrary, they must be carefully estimated and suitably treated. Recent researches in endocrinology promise that in the future a flood of light will be thrown upon the nature of the physical factors which play a part in the psychoneuroses, and in particular upon that vague but vastly important thing we call "constitutional predisposition." In this field, moreover, it seems possible that the physiologist and the psychologist will ultimately find a meeting place in which they can join hands and adjust their claims.

# APPENDICECTOMY BY A NEW ROUTE.

BY

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THE operation here described is designed for the removal of the appendix vermiformis through the right iliac fossa in cases where no general exploration of the abdominal cavity is called for—that is, in acute cases rather than chronic. The method is a muscle-splitting one, and has proved so successful that I employ it in preference to all others. Indeed, its advantages, anatomical, surgical, and clinical, appear sufficient to justify its general adoption in suitable cases as a substitute for the procedures in general use.

## I.—INCISION AND APPROACH.

The incision used for opening the abdomen may from its anatomical situation be described as the para-ilio-spino-inguinal (or ilio-inguinal for brevity's sake), and is made half an inch or less internal or medial to and parallel with the anterior superior spine of the ilium, or as near to it as practicable. The anterior iliac spine, a constant and definite landmark, which is easily felt or demonstrated however obese the subject, forms the centre. The cut is carried above and below this point to an equal extent and parallel with the iliac crest and spine and the attached inguinal (Poupart's) ligament. The length of the incision varies with the size of the individual, but usually need not be longer than 2½ in., although it may be extended in either or both directions if required.

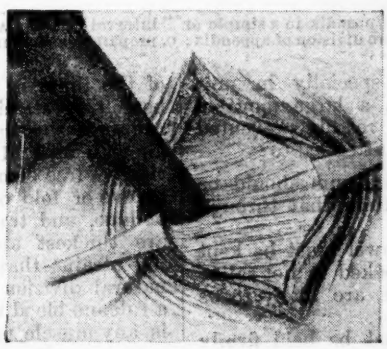

FIG. 1.—Separation of the fibres of the internal oblique muscle.

The cut at once divides the skin, subcutaneous fascia, and aponeurosis of the external oblique muscle to its full length, when an assistant, armed with a pair of blunt rectangular retractors, holds the edges apart, whilst the muscular fibres of the internal oblique muscle are defined and exposed to view. At this stage a white line of varying distinctness may usually (roughly in about 58 per cent. of cases noted) be seen passing across the muscle almost horizontally, in a direction from the anterior superior spine of the ilium to the middle line of the body; this line, which is bloodless, indicates a natural division of the muscle into an upper and lower section. With this line as a guide (the same direction must be followed when no line is visible) the thick fibres of the muscle are incised and then separated with the aid of a blunt instrument such as a Kocher's director, or by the gloved index finger (Fig. 1). The subjacent transversalis muscle is then similarly treated, its fibres being separated at the same time and by the same manœuvre to the full extent allowed by the skin incision. As soon as the fibres of these horizontal muscles have been freely separated and any bleeding stanched the retractors are removed and replaced at right angles to their former position so as to pull and hold the fibres apart, thus exposing the transversalis fascia. This fascia, usually thin, may at times be somewhat thickened and resistant, and through it the exploring finger ascertains the precise condition of the subjacent peritoneum. Up to this stage the procedure is identical for all forms and stages of appendicitis, whether acute or chronic, simple or "interval," with or without abscess. In uncomplicated cases, and whenever there is no evidence of suppuration, as may usually be determined by palpation of the peritoneum through the transversalis fascia, this fascia and the peritoneum are seized with blunt-pointed catch-forceps and divided in a direction parallel with the skin incision, medial or internal to the reflection of the parietal peritoneum on to the iliac fossa, deep to and parallel with the inguinal (Poupart's) ligament.

Where, however, an abscess is present or suspected, it is safer to turn the peritoneum inwards or medialwards from its seat of reflection behind Poupart's ligament and to open it posteriorly from the iliac fossa. The transversalis fascia and peritoneum are usually divided together in a line parallel with the skin incision, but they may be cut transversely as with the deep muscles, if the incision is likely to require enlargement. The peritoneal opening should be made as free as the skin and muscle divisions allow, and the edges caught and held apart securely with a pair of blunt-pointed catch-forceps. These instruments are attached near to the extremities of each edge, and serve to retain the cut edges of the peritoneum, acting as retractors during the subsequent manipulations. The forceps should be blunt, lest they wound the bowel; moreover, unless the peritoneal opening is ample there may be difficulty in replacing the viscus at a later stage. When the abdomen is opened, the viscus first seen is generally (86 per cent. of cases noted) large intestine, either the first part of the ascending colon or, less frequently, the caecum. Except in children and in abscess cases the omentum or transverse colon are rarely seen, still less often is the small gut observed, except in cases of excessive intestinal paralysis and distension due to a generalized septic peritonitis.

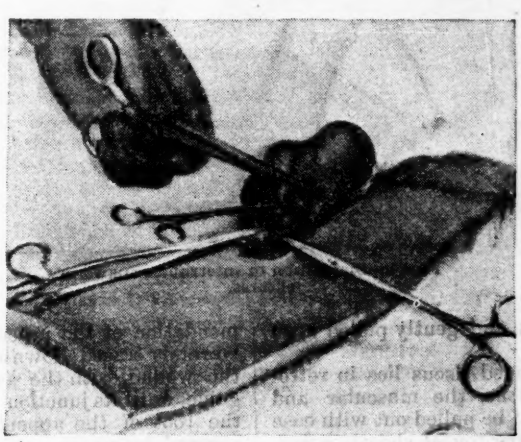

FIG. 2.—Delivery of the caecum and appendix through the wound.

## II.—TREATMENT OF THE APPENDIX.

The large intestine is now seized and drawn gently upwards through the wound, its anterior muscular band serving as a guide, until the caecum with its appendix is delivered through the wound (Fig. 2). When the appendix happens to be retrocaecal—a condition more frequently found than is reported—and is therefore sessile, or is otherwise adherent so that it cannot be delivered complete through the opening without risk or injury, it is wiser to detach the caecum at once, to deliver it through

the wound, and to leave the appendix *in situ* to be dealt with afterwards.

In a simple or "interval" case the appendix is removed outside the abdomen by clamping and dividing its mesentery up to its root. The mesentery is then ligatured, the appendix crushed at its base with a clamp, ligatured with catgut, and divided with a sharp knife at a point distal to the ligature, but proximal to a pair of forceps so placed as to prevent any escape of contents (Fig. 3, A, B, C). The stump is now carefully disinfected with pure phenol and buried between the peritoneal folds of the caecum and small intestine, or invaginated and stitched into the caecum by means of two superimposed layers of Lembert's sutures. The caecum is then cleansed with hot saline swabs, and rapidly returned to the abdomen.

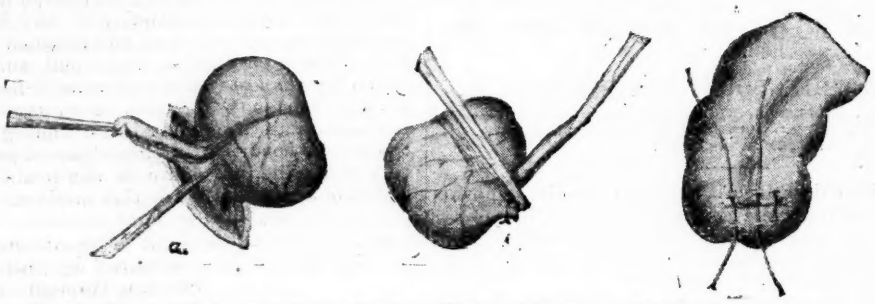

FIG. 3.—Treatment of appendix in a simple or "interval" case. A, Division of mesentery; B, use of forceps before division of appendix; C, preparations to bury stump. (After Kelly.)

Some difficulty is at times experienced at this stage in returning the bowel through the small opening, especially in prolonged operations and in cases with a large movable caecum, although the difficulty may be readily prevented or overcome if the following details are attended to:

1. The opening through the peritoneum should be always as free as or more free than that through the muscles.
2. The exposed and delivered bowel must be kept warm by gauze or lint wrappings soaked in hot saline lotion whenever the manipulations are likely to be prolonged.
3. The edges of the wound must be held firmly apart by an assistant whilst the operator is engaged in returning the caecum.

The wound is closed in layers with catgut sutures (fine for the peritoneum, stout for the muscles), the skin being brought together with silkworm ligatures interrupted so as to allow of the escape of serum (Fig. 4). Only a few sutures are required, since there is but little strain on the edges, and the muscles tend to fall together of their own accord

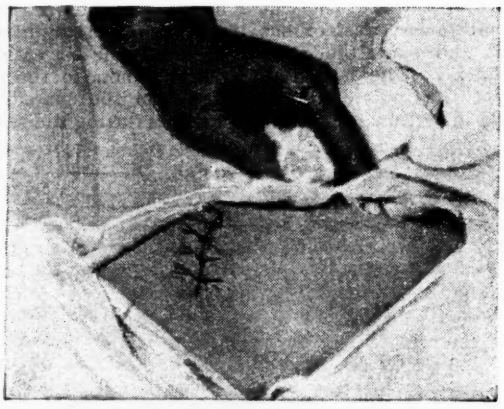

FIG. 4.—Disposition of interrupted silkworm sutures.

When the appendix is so adherent that it cannot be delivered readily with the caecum through the wound—as, for instance, in cases of chronic abscess—the safest and easiest plan is to deal with it as a foreign body by detaching the caecum from its root, and completing the operation by burying the stump as already described. The adherent and detached appendix is then seized at its divided end with a pair of forceps and gently pulled upon until it comes away.

In many cases, when the inflamed viscus lies in retrocaecal or retroperitoneal situations, the muscular and mucous portions of the organ may be pulled out with ease from its inflamed and thickened peritoneal sheath, a firm rubber tube of sufficient calibre then being inserted into the track. When the appendix is approached by this route and its base sought for at the junction of the large and small intestines, it can always be found and removed. Only twice out of a series of over 800 consecutive operations was there any insuperable difficulty in discovering the appendix; in one case, after the ingestion of a barium meal, the Roentgen rays showed a complete transposition of the viscera; in the other, owing to displacement, probably congenital, of the right kidney downwards into the paracolic fossa, the caecum, with its appendix, was pushed across to the left side of the body.

Drainage is now seldom used except in case of abscess. The practice of removing the appendix as a routine, and with it the focus of sepsis and infection, is a sound one, for not only does it minimize the immediate risks and any tendency to relapse, but it shortens the period of drainage, and indeed usually enables drainage to be dispensed with altogether.

### III.—Advantages and Disadvantages of the New Method.

Since the technique described differs but little from that in general use in muscle-splitting operations, the question may be asked, What are the special advantages of this route of approach? The answer is that it presents definite anatomical, surgical, and clinical advantages.

*Anatomical Advantages.*

The anterior superior spine of the ilium is an unfailing landmark which can readily be felt in all circumstances of life. An incision or scar running through the external oblique muscle within an inch of, and parallel with, its bony origin is practically free from strain, since it lies in a natural groove or fold of the body. The deep muscles—internal, oblique, and transversalis—are divided where their fibres are thickest and strongest, and more capable of bearing strain—that is, along the line which indicates their natural division into an upper and lower section. As a rule, no blood vessels are present to require ligature nor is any muscle nerve liable to be divided. Moreover, the parietal peritoneum is here thick and taut, and well supported by extraperitoneal fat at its line of reflection to the iliac fossa hence it is less likely to approach the skin wound and so predispose to hernia, even after prolonged drainage. Such approximation of the peritoneum towards the skin through the muscles is perhaps the most important predisposing cause of ventral or other form of hernia. A further advantage is that the ascending colon or caecum is situated in the direct route, so that the surgeon may rely on discovering the appendix at its origin from the viscus, no matter where its body lies (except in the rare event of visceral transposition). There is probably no viscus which varies more than the appendix in its position and movements under the ever-changing circumstances of life. Hence an assurance that the appendix will be found in almost all conditions is a great recommendation of the procedure here advocated. If the large bowel is traced downwards or drawn upwards through the wound, with the anterior muscular band as a visible guide, until its junction with the small intestine is reached, the root of the appendix may be found, while, if it is covered by peritoneum, it may be felt and readily dealt with.

*Surgical Advantages.*

The ilio-spinal approach to a great extent prevents the risk of ventral hernia, since the two main factors concerned in the process—pouching of the parietal peritoneum and muscle strain—are almost wholly eliminated or rendered improbable by the anatomical facts already described. In the oblique incision of McBurney, on the other hand, the scar from its position is exposed to considerable intra-abdominal strain, and as a result the peritoneum often pouches; in fact, in cases of prolonged drainage the peritoneum often approaches the skin

through the weakened muscles, and may even become adherent to it. Both these circumstances predispose to ventral hernia. Further, the not infrequent division of or injury to the twelfth dorsal nerve, supplying the region of the internal inguinal ring, and the ligature of the deep epigastric vessels predispose to inguinal hernia.

*General Peritoneal Cavity.*—Even more important than the prevention of hernia is the fact that the ilio-inguinal route avoids the necessity of involving the general peritoneal cavity while dealing with the appendix. Such violation defeats Nature's efforts at self-preservation or cure, efforts which are revealed by the tendency of inflammatory processes within the abdomen to become limited and shut off by protective lymph. Any procedure, therefore, which counteracts this natural and conservative tendency should be condemned as non surgical. This criticism is applicable to most of the operations practised to-day in which the appendix is approached through the general peritoneal cavity, whether the organ is at the time healthy, inflamed, or even gangrenous; especially is this true of the straight or para-median incision, to a less extent the oblique. By the ilio-inguinal route, on the other hand, the peritoneum may be opened and the abscess easily reached and evacuated through the iliac fossa without the difficulties and dangers of soiling or infecting the general peritoneal cavity. For this reason the new route is unquestionably safer and in harmony with the principles of surgery. As a further advantage the appendix may invariably be removed at the time. The necessity for a subsequent operation is thus obviated, with its concurrent risks, waste of time, increased expenditure, and worry, apart from the possibility of hernia.

*Drainage*, when established through the iliac fossa to the stump of the appendix, or even into the pelvis itself, is simpler and safer than when an abscess is drained through the general peritoneal cavity; an extruded faecal concretion may also be more readily found and safely extracted. Again, the procedure as a whole is simpler and takes less time; in uncomplicated cases the saving of time is remarkable. The appendix is so quickly found, and the wound requires so few sutures, that on more than one occasion four such operations have been performed at the Radcliffe Infirmary within sixty minutes, all the details, including dressings and bandages, being carried out by the operator. Indeed, few abdominal operations will be found so simple. No doubt speed may matter little in an ordinary operation. On the other hand, it may be of the first importance when the patient is *in extremis*, cyanosed or ashy-white in colour, with an irregular or flickering pulse, severe meteorism, and where even the anaesthetic adds appreciably to the danger. Simplicity of method and rapidity in execution are of priceless value when life hangs by a thread.

*Diagnosis of Gravity.*—Further, the ilio-inguinal route of approach, whether for exploration or removal, enables the surgeon to make a fair estimate of the gravity of the case before the peritoneum is opened. When the transversalis fascia is reached, digital palpation makes it possible to determine not only the presence but the precise situation of an abscess. The extraperitoneal fat in cases of abscess is often considerably thickened and oedematous, and offers distinct resistance even in the early stages; hence if the fingers are pressed gently through the fat against the peritoneum the resistance encountered enables the surgeon to form some idea as to whether the abscess is immediately subjacent or has passed upwards behind, or to the outer side of the colon, or downwards and forwards into the pelvis. When the resistance is slight, the peritonitis is almost certainly localized and the peritoneum may be incised anterior and internal or medial to its anatomical line of reflection, so that the general cavity can be opened with but little risk. On the other hand, if the resistance is such as to justify the suspicion of abscess it is safer to turn the peritoneal fold inwards and forwards, to open the abscess from behind through the iliac fossa, and then to deal with the appendix or its concretion, and to establish drainage through the opening.

### *Clinical Advantages.*

The principal gain lies in the lessening of the period of convalescence. Prolonged drainage is seldom needed, since the actual source of disease is removed at the time, and consequently recovery is usually rapid. When no drainage is necessary, the patient may be allowed out of bed as soon as the wound is quite healed (usually from the tenth to twelfth day), and is able to walk soon after.

### DISADVANTAGES OF THE NEW METHOD.

What are the drawbacks?

In the first place, one possible objection is that by this route no satisfactory exploration of the contents of the abdominal cavity can be made. This objection, however, is scarcely to the point, since, as stated before, the operation is recommended for the removal of the appendix, and not for general exploration. Laparotomy and exploration of the abdomen may be superadded by means of another incision, and without detriment.

Secondly, it may be urged that, when the mischief in the appendix is insufficient to account for the symptoms entirely, the return of the caecum after removal of the appendix may be difficult through the small peritoneal opening. This objection is valid; but if care is taken to make a free opening through the peritoneum to begin with, if the edges are well retracted, and if the exposed bowel is kept warm, the difficulty will rarely be formidable, and never insuperable.

Thirdly, the provision of adequate drainage is felt to be a difficulty by those surgeons who believe that gravity plays an important rôle in abdominal drainage. Experience, however, proves that an appendix abscess, even in Douglas's pouch, may be quite as efficiently drained through the iliac fossa as through the central abdomen, provided that a sufficiently rigid though pliable rubber tube is used. It is not suggested, however, that every case need be drained in this way, since treatment must always be adapted to existing circumstances; and it is quite possible that in a few cases it may be advantageous to supplement it by another incision.

## IV.—CONCLUSIONS.

The value of the operation is attested by a wide experience, having been practised by the writer for over twelve years; during the last eight years it has been used almost exclusively. The procedure was at first reserved for simple, quiescent, or "interval" cases, the oblique muscle-splitting incision of McBurney being substituted whenever an abscess was suspected or evident. With increasing experience, however, the special method was found to be suited for almost every condition and adaptable to almost every emergency. Out of 843* consecutive operations performed at all stages of the disease, whether simple or complicated, and all ages ranging from 3 to 79 in both sexes, there have been in all 18 fatal cases, yielding a mortality of approximately 2.25 per cent. In a recent sequence of 117 cases there was no death, whilst the 118th and 119th were unsuccessful. The immediate mortality would appear, therefore, to be no higher than that pertaining to any of the other modes of procedure, while as regards remote sequelae not a single case of hernia or abnormally weak scar has occurred. These results amply justify an appeal that the suggested operation should receive at least a trial. In fact, now that it is becoming the rule to operate in almost every acute case as soon as the diagnosis is established and the necessary arrangements can be made, there is every reason to anticipate a fall in the immediate mortality, whilst the necessity for prolonged drainage and convalescence will be so lessened that any permanent abdominal weakness will be rarely met with.

The results, immediate as well as remote, obtained from any particular method of operation must, however, depend upon clinical details, as well as on operative technique. Did space allow, a full account of post-operative treatment and clinical methods would have been added. It is thought advisable, however, to record these later in a special article.

* Since this paper was written 51 additional operations have been performed, with one death.

THE *Boston Medical and Surgical Journal* states that there were 1,367 deaths from tuberculosis in Boston last year. The local association for the relief and control of the disease has after careful investigation come to the conclusion that for each death from tuberculosis there are twenty persons ill with the disease, of whom nine are in the advanced or contagious stage.

# THE RESULTS OF PROTECTIVE INOCULATION AGAINST INFLUENZA IN THE ARMY AT HOME, 1918–1919.

BY

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K.C.M.G., C.B., K.H.P., M.B., F.R.C.P., F.R.S.,
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THE BRITISH MEDICAL JOURNAL was good enough to publish, on October 26th, 1918, the proceedings of a conference of bacteriologists, summoned by the D.G.A.M.S. to consider the advisability of employing in the army a preventive vaccine against influenza. This conference, of which I had the honour to be chairman, agreed that such a vaccine might be expected to be of service, and made recommendations as to its constitution and use.

The vaccine recommended was accordingly prepared at the Royal Army Medical College, and, in certain commands, used on a considerable scale.

In view of the opinion, widely expressed in both medical and lay journals, that we are threatened with another epidemic wave of influenza, it is felt that the results obtained in the army commands at home last winter with the vaccine in question should be made known; not only because it is proposed to advocate its employment again in the army, if we should be so unfortunate as to find ourselves in the presence of a serious recrudescence of the disease, but also because the modified vaccine now in army use has, I understand, been adopted by the Ministry of Health for employment in the civil community.

The vaccine formula recommended by the conference mentioned above was as follows:

| | Millions. |
|---|---|
| *B. influenzae* ... ... ... ... | 60 in 1 c.cm. |
| Streptococci ... ... ... ... | 80 ,, |
| Pneumococci ... ... ... ... | 200 ,, |

Several strains and types of each organism were used, all comparatively freshly isolated from cases of the disease. Two doses were recommended, the first 0.5 c.cm., and the second, given after ten days' interval, 1 c.cm. The statistical results recorded below apply solely to the vaccine prepared in accordance with the above formula.

As was naturally to be expected, in view of the divergent views held as to the bacteriology of the epidemic, the proposed constitution of the vaccine was subjected to a certain amount of criticism in subsequent issues of the medical press, and the points made in these communications, many of them most valuable and helpful, were duly noted. One of the principal criticisms was concerned with the dosage which had been agreed on as appropriate for

*Table of Results of Influenza Inoculations in the Home Commands, 1918–1919.*

| | Period Covered by Return. | Average Strength during Period. All Ranks. | Number Inoculated. | | No. of Cases of Influenza during Period. | | Incidence of Attack, per 1,000. | | No of Cases in which Pulmonary Complications Occurred. | | Deaths. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | One Dose only | Two Doses. | Inoculated. | Non-inoculated. | Inoculated. | Non-inoculated. | Inoculated. | Non-inoculated | Inoculated. | Non-inoculated. |
| NORTHERN COMMAND. | | | | | | | | | | | | |
| 1. Cramlington ... ... ... | 31/12/18–28/ 2/19 | 1,000 | 20 | 230 | 4 | 40 | 16.0 | 53 3 | — | — | — | — |
| 2. Wallsend ... ... ... | 1/11/18–30/11/18 | 2,149 | 774 | 591 | 1 | 5 | 0 7 | 6.4 | — | 1 | — | 1 |
| 3. Forest Hall ... .. ... | 1/11/18–30/11/18 | 841 | 30 | 57 | — | 17 | 0.0 | 22 5 | — | 1 | — | 2 |
| 4. Seaton Delaval ... ... | 1/11/18–30/11/18 | 1,100 | 109 | 94 | 3 | 24 | 14.7 | 26.7 | — | — | — | — |
| 5. York ... ... ... ... | 1/ 2/19–30/ 4/19 | 3,100 | 1,450 | 50 | 9 | 240 | 6 0 | 150.0 | 1 | 65 | — | 25 |
| 6. Newcastle ... ... .. | 1/11/18–30/11/18 | 2,794 | 324 | 41 | 1 | 62 | 3.0 | 25 5 | 1 | 15 | — | 5 |
| 7. Catterick ... ... ... | 1/ 3/19–30/ 4/19 | 3,352 | 78 | 395 | 4 | 76 | 8 4 | 26.3 | — | — | — | — |
| 8. Ripon (Reserve Centre) ... | 1/ 4/19–30/ 4/19 | 1,824 | 71 | 1,174 | 1 | 3 | 0.8 | 5.1 | — | — | — | — |
| 9. Ripon ... ... ... ... | 1/11/18–30/11/18 | 5,246 | 363 | 408 | 4 | 81 | 5.1 | 18 0 | 1 | 12 | 1* | 3 |
| 10. Alnwick ... ... ... ... | 1/11/18–30/11/18 | 668 | 25 | 175 | — | 20 | 0.0 | 30.0 | — | — | — | — |
| 11. Bradford ... ... ... | 1/11/18–30/11/18 | 643 | 31 | 170 | — | 5 | 0.0 | 11.3 | — | — | — | — |
| 12. Tyne Garrison ... ... | 1/11/18–30/11/18 | 5,270 | 1,048 | 765 | 6 | 79 | 3.3 | 12 8 | — | 2 | — | 3 |
| 13. 3rd Cheshires ... ... ... | 1/11/18–30/11/18 | 2,180 | 222 | 412 | 12 | 48 | 19.0 | 31 0 | — | 25 | — | 5 |
| 14. West Hartlepool ... ... | 1/11/18–30/11/18 | 670 | 127 | 60 | — | 30 | 0.0 | 62.0 | — | 5 | — | 2 |
| 15. Clipstone ... ... ... | 1/11/18–30/11/18 | 11,509 | 525 | 1,734 | 38 | 228 | 16.8 | 24.6 | — | 2 | — | 4 |
| 16. Bagthorpe ... ... ... | 1/11/18–30/11/18 | 800 | 121 | 31 | 14 | 6 | 92.0 | 9.4 | 4 | 2 | — | 2 |
| EASTERN COMMAND. | | | | | | | | | | | | |
| 17. Maidstone ... ... ... | 9/11/18–30/ 4/19 | 4,197 | 80 | 410 | 1 | 504 | 2 0 | 135.9 | — | 403 | — | 41 |
| IRISH COMMAND. | | | | | | | | | | | | |
| 18. Finner ... ... ... ... | 1/11/18–30/11/18 | 760 | 79 | 559 | 55 | 36 | 86 0 | 295 0 | 7 | 11 | 1 | 2 |
| 19. Charles Fort ... ... ... | 1/11/18–30/11/18 | 1,453 | 380 | 191 | 4 | 7 | 7 0 | 7 6 | — | — | — | — |
| 20. Cahir ... ... ... ... | 1/11/18–30/11/18 | 526 | 38 | 318 | 4 | 16 | 11.2 | 94.1 | — | — | — | — |
| 21. Buttevant ... ... ... | 1/11/18–30/11/18 | 835 | 126 | 423 | — | 7 | 0.0 | 24.8 | — | 1 | — | 3 |
| WESTERN COMMAND. | | | | | | | | | | | | |
| 22. Prescot ... ... ... ... | 1/11/18–30/11/18 | 4,151 | 489 | 100 | 1 | 21 | 1.7 | 5.1 | — | — | — | — |
| SCOTTISH COMMAND. | | | | | | | | | | | | |
| 23. 4th Seaforths ... ... ... | 1/11/18–30/11/18 | 2,326 | 500 | — | — | 102 | 0.0 | 55.0 | — | 2 | — | — |
| LONDON DISTRICT. | | | | | | | | | | | | |
| 24. Battersea ... ... ... | 1/11/18–30/ 4/19 | 1,750 | — | 221 | 59 | 402 | 267 0 | 263.0 | 12 | 35 | — | — |
| Totals ... ... ... | | 59,144 | 7,010 | 8,614 | 221 | 2,059 | | | 26 | 583 | 2 | 98 |
| | | | 15,624 | | | | | | | | | |

* One dose only.

*Summary of Table.*

| | Inoculated. | Non-inoculated. |
|---|---|---|
| Strength ... ... ... ... ... ... ... ... ... | 15,624 | 43,520 |
| Incidence of attack, per 1,000 ... ... ... ... ... ... ... | 14.1 | 47.3 |
| Incidence of pulmonary complications, per 1,000 ... ... ... ... | 1.6 | 13.3 |
| Deaths, per 1,000 ... ... ... ... ... ... ... ... | 0.12 | 2.25 |

the *B. influenzae* moiety of the vaccine, it being urged that a considerably larger dose of this might be given with safety and with the prospect of an enhanced degree of immunity. In view of this, and also of the fact that, as the bacteriological experience of the epidemic extended, the etiological rôle of Pfeiffer's bacillus came more and more into prominence, I consulted my colleagues of the original conference afresh upon this point and found them all in agreement with an increased dose of Pfeiffer's bacillus, which I proposed should be raised from 60 millions to 400 millions in 1 c.cm., it being understood that the strains employed should not have been so cultivated or so recently derived from cases as to be unduly toxic in their action.

The formula of the vaccine as thus revised, and as now employed in the army, is therefore:

| | Millions. |
|---|---|
| *B. influenzae* ... ... ... | ... 400 in 1 c.cm. |
| Streptococci ... ... ... | ... 80 ,, |
| Pneumococci ... ... ... | ... 200 ,, |

From the first it was desired that every attempt should be made to secure clear statistical evidence of the results of the inoculations with the vaccine, and the necessary instructions to this effect were circulated by the War Office; returns, in accordance with a simple *pro forma* being called for at regular intervals. In theory, such clear evidence should have been easy to collect through the workings of official machinery; in practice, it has been very difficult. Only those familiar with the strain thrown on the medical personnel by the addition of a severe and widespread epidemic to the already sufficiently arduous labours of those days of urgent and wholesale demobilization can appreciate the difficulties of collecting and recording, in accurate detail, the information required for the returns. In spite of these difficulties, which unfortunately vitiated some of the returns, a considerable number of inoculations were carried out and the records were received and analysed at the War Office.

Although it is very far from my intention to make any claim that the figures here presented are conclusive and free from all or even, in some cases, from possibly large fallacies, they serve, I think, to show at least the general trend of the inoculation results, and they have encouraged the hope that, with the larger dose of Pfeiffer's organism now employed, the vaccine, should it be needed, may prove a powerful reinforcement to other measures of protection.

A few words are called for in explanation of the table. The individual returns are shown under the name of the unit or the principal station in or near which the soldiers in question were located. The period covered by each return is shown in a separate column. The "strength" is the "average strength" of the unit or station; no other method was possible in view of the fluctuations of the population. The "inoculated" include those inoculated before the period in question, as well as those done during it, while the "uninoculated" are arrived at by deducting the inoculated from the average strength. The number of cases, complications, and deaths are, of course, not averages but actual figures derived from the hospital records. The recording of pulmonary complications is probably lacking in uniformity, since different medical officers may have taken different views as to the degree of bronchial or pulmonary involvement which should be taken as a complication.

The returns, all of which lie within the period between November, 1918, and April, 1919, comprise all those relating to this period which conformed to the following requirements:

1. That the vaccine used was that prepared at the Royal Army Medical College, according to the original formula.

2. That influenza should have been present in the unit during the period under review. In many stations where inoculation had been largely carried out there was a rapid cessation of the epidemic. Such returns would have swelled the total of the inoculations without throwing any light on their protective effects.

3. That only such returns are included as showed that at least one-tenth of the average strength had been inoculated, whether with one dose or two.

Periodic returns have continued to be received since the period dealt with in the table, but these have been either negative altogether as regards incidence of the disease, or show so few cases of influenza in either group as to be valueless from a statistical standpoint.

Information was asked for as to the interval occurring between inoculation and a subsequent attack of influenza, but the figures in response to this are too few to be worth analysing; it need only be said that they furnish little or no evidence of any increased susceptibility in the days immediately following inoculation, and that they throw no light of any value on the duration of the immunity conferred by the inoculations. The figures bearing on the latter point would, in any case, have been exposed to the fallacy that the epidemic was rapidly declining throughout the forces, and that the inoculated population was drifting, with increasing rapidity, out of our control into civil life.

No bad effects were reported from the inoculations, and the reactions, in the overwhelming majority, were trivial or non-existent.

It will be noted from the table that nearly one-half of the inoculated had received only the first dose of the vaccine—that is, one-third of the amount which we considered essential to effective protection. It is reasonable to assume that, had all received the full dosage, the protective results would have been still more evident. No statistical evidence bearing upon this point is, however, available.

The table had best be left to speak for itself, but it will, I think, be admitted that in general the results are encouraging, and that they tend to confirm and even strengthen our original anticipations, which were, briefly, that at least a moderate degree of protection against infection might be expected, while more decidedly beneficial effects might be hoped for in a diminution of both the frequency and the gravity of the pulmonary complications.

## OBSERVATIONS ON THE X-RAY TREATMENT OF NEOPLASMS.

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WHEN we are able in all cases to diagnose malignant disease early the use of *x*-ray therapy will be limited to those cases only in which mechanical and physiological considerations prevent operation. Until this be attained we have to deal with a large number of tumours which, because of their size and position, forbid the use of the knife.

This paper is not a criticism; it gives the result of observations of facts and deductions, I believe logical, which have been forced upon me during the past three years. Thanks to the kindness of my former chief, Dr. J. H. Sequeira, many cases came partly under my care and observation.

My object in investigating them was not only to obtain successes, but also to inquire why we succeeded in some and failed in others, for upon this knowledge depends future success and the alleviation of much suffering.

R. G. was sent by Dr. Lack as being beyond operative treatment with sarcoma of the tonsil. The right side presented a large growing tumour, obviously quite vascular. Before November 22nd, 1915, attempts at removal when small had been made, but the tumour recurred, and on that date she was, under Dr. Sequeira's direction, submitted to *x*-ray treatment, the dose being a weekly one of Sab. $B_4$ pr 1½ mm. to outside of tumour and Sab. $B_2$ pr. 1 mm. of aluminium to the nasopharynx. In January, 1916, she was very much better, and the glands were going down. She had more *x* rays on February 7th, 1916. On February 28th Dr. Lack saw her and reported, "Much better—

no glands." The same doses were given until May 29th, 1916, and then once monthly to September 18th, 1916.

On September 28th, 1916, Dr. Lack wrote: "Firm fibrous thickening above right tonsil, neck smaller." In January, 1917, more treatment (three doses). On February 23rd, 1917, "Much thickening" was noted, and afterwards treatment was followed by gradual improvement; except for a small radiotherapeutic burn she had continuously done well.

To-day she is still well, and though the growth may not be completely eliminated, she looks fit, and is living an efficient life; the neoplasm has remained stationary since March, 1917; the pain—once a prominent symptom—has gone, and a hopeless prognosis in 1915 has been converted into a possible cure and three years of efficient and comfortable life.

The following case is more striking still:

B. C. was admitted in April, 1911, with a tonsillar affection of some duration for which he attended several hospitals. The right tonsil was swollen and red and protruded forward into the mouth; its lower limit could not be seen. He was very thin, pale, and had lost much weight. A diagnosis of sarcoma was made. A week after he was much worse, the swelling protruding more into the mouth, and his condition was looked upon as hopeless; Dr. Sequeira did not think the boy should attend the hospital again. In May the glands were irradiated through filters and improvement occurred, but on May 23rd there was a setback in his general condition. Treatment by radiation was persevered with, and July saw improvement and the "swelling much less."

In November, 1911, "the palate moves easily and the growth has almost gone," but glands were still palpable on the left side, and more treatment was given twice a month until May 4th, 1912, when he was pronounced quite well. A month later the same note was made. In September, 1912, he was still well and passed a medical examination for the Railway Clearing House. When seen again in January, 1913, and May of the same year, he was still well. He joined the army in 1914, and was still well in June, 1916.

This was an undoubted success.

Early in 1914 I saw a case which had been diagnosed by a surgeon of repute as sarcoma of the chest wall. When treated with *x* rays the whole disappeared. The surgeon, on seeing the case again, suggested that the diagnosis could not have been accurate; but he himself had made the diagnosis. The tumour had been there and was gone, and *x* rays alone had been used. The patient, a girl, died some two years after of pneumonia.

E. O., aged 17, had a swelling of the right upper maxilla, which was hard and definitely enlarged to the touch and sight; the patient was sent for treatment with the diagnosis of sarcoma. The tumour had been present for six months; the Wassermann reaction was negative. I thought the prognosis bad. Heavy doses of *x* rays were given during September every four days, and when seen on November 21st, 1918, the swelling was much smaller. The patient's general health was good and more treatment was carried out. In February, 1919, the condition was quite good and the swelling negligible. When I saw her on October 26th, 1919, she was quite fit, and there was no indication for treatment.

I might quote other cases, but only wish to establish a fact which is known to some—namely, that some sarcomata may be inhibited by *x*-ray treatment.

To quote cases of inoperable carcinoma of breast in which benefit, such as prolongation of life, complete disappearance of pain, retrogression of the growth, improvement in general health, are well-marked features would weary the reader. Some of us know by experience of many cases so benefited, and the number runs into hundreds. I may, however, be excused for mentioning the case of a school teacher who had carcinoma mammae; *x*-ray treatment was delayed and, as often happens, recurrence followed. The combination of *x*-ray treatment and radium has, however, enabled her to carry on for nine years since the appearance of the first recurrence. Each new growth is tracked by the application of a radium plate; she illustrates vividly the spread of carcinoma by lymphatic vessels in so far that the radium reaction has left telangiectases wherever the plate has been applied. Although taken late for treatment, this patient has had nine years of life and the capability to earn her daily bread. I saw her last a few months ago.

Of the value of radiation of the site of glands after removal there can be no doubt, and I would plead for the routine radiation of scars after removal of squamous-cell carcinoma of the lip and other such tumours, just as surgeons send their cases of breast cancer after operation.

Looking back upon cases of new growths treated by *x* rays, I have seen the greatest benefit or inhibition in sarcomatous neoplasms, and in my experience in the slow-growing varieties.

Leaving rodent ulcers on one side—in which radium treatment shows at its best, and of which many cures have been published by others, such as Dr. Sequeira as far back as 1908 at the International Congress of Surgery, Brussels—it may be said of carcinomas that the results of radiation are not so striking. A patient with carcinoma is more likely to have secondary glandular involvement than one diagnosed early as suffering from fibro-sarcoma; but, putting this probability on one side, the results are not so good in squamous-cell carcinoma, for instance.

I was inclined to think that the vascularity of the growth was a determining factor, looking upon a fibro-sarcoma, for instance, as one less vascular than the fungating tumour received from the surgical side of a hospital for *x*-ray treatment as a last resort; but experience with enlarged spleens tends to modify that hypothesis, for it is difficult to imagine a more vascular organ, and yet the diminution under *x* rays of an enormous spleen, such as is seen in cases of leukaemia, is most striking.

Breaking down malignant glands such as follow an "epithelioma" of the lip, or squamous-cell carcinoma springing upon an ulcerated lupus lesion, do not do well under *x*-ray treatment.

A case in point was that of B. N., who had had lupus vulgaris of the face for years. Squamous-cell carcinoma made its appearance. Thorough treatment was carried out by diathermy and not without success; the lower two-thirds of the lesion did well and healed, but there remained a focus in the lax tissues of the lower eyelid which, when again attacked by diathermy and *x* rays, grew apace.

Neoplasms of the lung react to hard rays, and though I have not seen one disappear, diminution of pain, cyanosis, and cough, and even retrogression of the neoplasm, do follow radiation; but heavy filtered doses are necessary.

Bulk is no hindrance; it is the nature of the growth that counts. As I mentioned before, the vascularity of the growth is not the important factor, but the more fibrous tissue present in the stroma, as a rule, the slower the growth and the better the result of radiation. Natural means of checking invasion are helped readily by the physical. *X* rays tend to cause or help the formation of fibrous tissue, but only *x* rays of a certain type.

Much good histological work has been done on the effect of radiation on cells, as anyone who reads the excellent work of Sidney Russ and Colwell on radium, *x* rays, and the living cell can see. But we are only on the threshold of knowledge of these phenomena. The removal at fortnightly or monthly intervals of irradiated glands whenever possible, their section-cutting and examination by a competent pathologist would prove of value. The radiotherapeutical department of a hospital should work hand in hand with the pathological.

In many of these cases submitted to *x* radiation it is useful to ascertain whether the Wassermann reaction is present, especially where the position of the growth or other condition forbid the removal of specimens for histological examination.

The *x* rays can be divided into at least two great classes, according to their effect—namely, those that give rise to stimulation of growth, and those that cause inhibition and, further, necrosis. The first effect seems certainly to be associated with the treatment of superficial lesions, such as lupus vulgaris and its frequently accompanying ulceration. In this connexion two points are of importance: first, the rather frequent occurrence of "epithelioma" on lupus, especially in cases that have received frequent *x*-ray treatment by small doses of unfiltered rays. It is a point among others showing the necessity of the skilled control of a therapist over the too-often haphazard methods of *x*-ray treatment. *X*-ray burns are a sad evidence of injudicious dosing, but they at least call attention to over-treatment. The formation of epithelioma on lupus works silently, only revealing itself, as a rule, too late for cure. Needless to say, the constant granulation that goes on, the repeated attempt at healing, the frequent division of cells, are factors in the production of cancer in these cases, but there remains a large number where the presence of squamous cell carcinoma coincides with repeated application of rays in small doses. These are often the legacy of earlier days in radiotherapy.

*X Rays and Arsenic.*

I was inclined to look upon this appearance of squamous-cell carcinoma on lupus and also in *x*-ray workers from repeated small exposures of ½ to ⅘ Sab. B, as being due to an irritative effect of the "soft" rays, the formation of the skin cancer being regarded as similar to that of lip cancer in clay pipe smokers, epithelioma of the tongue following dental irritation, and so on. The parallel between the effects of *x* rays and arsenic is not without significance. Both may cause erythema, both give rise to pigmentation and hyperkeratosis. Arsenic certainly causes a neuritis, and *x* rays have been described as doing the same. After the prolonged effects of each we may observe carcinoma. To have looked upon this common action as an over-stimulation was, I think, natural. But, in the words of Dixon:

> Arsenic under certain conditions gives rise to a peripheral neuritis which closely resembles that of alcohol. The action is essentially one on the interstitial tissues, the connective tissue sheaths of the nerve being affected in the same way as connective tissue elsewhere in the body. It becomes hyperaemic, shows multiplication of new tissue elements and migration of leucocytes. These changes lead to pressure on nerve fibres, and so to later degeneration.

The end results of prolonged exposures to "soft" *x* rays are the same on the skin as those of the prolonged use of arsenic. Hyperkeratosis, usually affecting the soles and palms, is peculiar to arsenic among drugs. Hyperidrosis is then often prevalent in these places, appearing as small elevations like millet seeds or small corns. Epitheliomas may develop on these small corns. The hands of the radiographic assistant of early days may be compared with this.

Is it, then, too much to deduce that in the latter case nerve fibres also become degenerated, and that some forms of carcinoma are due to lack of nerve control of the cells? I have heard this theory before, and only suggest that the similarity of action of *x* rays and arsenic is another fact in favour of the theory.

Mrs. M. was at one time a skin patient. She had also exophthalmos, some cyanosis, dyspnoea, clubbing of fingers, dullness in the sternal region, and other signs, and was sent to the physician for thoracic disease; a diagnosis of mediastinal neoplasm was made. The patient ultimately died of bronchopneumonia, and *post mortem* a growth around the arch of the aorta, of the size of a small apple, was found.

This patient had some *x*-ray treatment, and though certainly the case was advanced, her death was not without a lesson, which I now wish to point out with due humility. Such a tumour should be radiographed, and I will even suggest localized. To hand over such a case as "tumour of the thorax" to a lay assistant for radiation is a mistake. His knowledge of anatomy is negligible, of disease still less; and unless careful focussing of penetrating rays in heavy and repeated doses are carefully and accurately applied to the growth, it may be from several angles by a cross-fire method, the chances of hitting the tumour are *nil*. It is therefore essential in such cases to transfer upon the thoracic wall with indelible pencil the findings of clinical and radiographic and localization methods. Accuracy of focus is, I am certain, a primary essential factor in *x*-ray treatment. The chances of missing with a pencil of rays a tumour the size of a small apple in such a large cavity as the thorax are, of course, very great. Careful localization and markings are of primary importance.

It is easily realized that neoplasms, be they sarcomas or carcinomas, especially if large, will require prolonged treatment. The care of the skin is therefore paramount, for unless great precautions be taken erythema and, too often, burns will follow, preventing further treatment, and consequently destroying all chances of alleviation or cure. A shield on the patient will protect all organs except those in the direct paths of the rays passing through an aperture in the shield. Only the diseased tissues will therefore be irradiated. It may be argued with reason that many foci of infection are possibly present, and that wide radiations are beneficial. If such be the case the prognosis is bad whatever treatment be given. The presence or absence of secondary deposits will sometimes be revealed by radiographic examination.

That the localization of the growth is essential will be easily understood when it is remembered that the power of the rays is inversely proportional to the distance of the object from the anticathode. For success, therefore, it is essential that the depth of the object be known, for on that, I think, the dosage should also be based. Far less radiation will reach an object 8 in. than one 2 in. deep.

Time will show that the doses we have given are inadequate. Heavier doses of "harder" rays through thicker filters are those that will cause inhibition of neoplasms. We have done well in some cases, failed in others. Where two years ago I gave 4 Sab. B through 2 mm., I now give 8 or 12 B's through thicker filters and the results are better.

My thanks for opportunity and advice are due to Dr. Sequeira; for practical help am I also indebted to Mr. Blackall of the London Hospital. The mistakes are mine.

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## CHRONIC INFECTION OF THE FAUCIAL AND POST-NASAL LYMPHOID TISSUE IN CHILDREN.

BY

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A CHILD with enlarged tonsils and adenoids is not ill because of the increased size, but because of a chronic infection of its faucial and post-nasal lymphoid tissue, which serves not only as a nidus for the manufacture of toxins but also as a port of entry for many other systemic diseases. This condition of chronic infection is extremely common, and diagnosis is easy if the three cardinal physical signs—enlarged tonsils, rhinitis, and enlarged cervical glands—are kept in mind. Additional physical signs are often to be noticed, such as running ears, bronchitis, mastoiditis, etc., but are more correctly described as complications, and are found as a rule only in neglected cases. That the disease is highly infectious is shown by the following facts:

1. That it is far more frequent among school children than among children who do not go to school.
2. That when one child in a family is attacked the disease subsequently spreads to his brothers and sisters who were previously healthy.
3. Micro-organisms can always be grown from the nasal and post-nasal secretions, which are normally sterile.

For these reasons the disease may be considered as infectious in exactly the same way as measles and scarlet fever are infectious.

Unfortunately in this disease there does not appear to be as great a tendency to spontaneous cure as in some of the other specific infections of childhood; it is a very much more chronic condition, and in consequence of this once a child is attacked he may, and often does, continue in a more or less normal manner for years; but on examination will be found to present the three cardinal signs of the disease, and micro-organisms will be detected in the nasal and post-nasal secretion.

Such a child is, in fact, a "carrier," and is for that reason a source of danger to all healthy children with whom he may come into contact. Because of the chronicity of the disease it follows that nearly all untreated cases are carriers for a longer or shorter period, and this would appear to be a good reason for its frequency.

A sufficient number of bacteriological examinations of secretions from the nasal and post-nasal spaces have not hitherto been made to enable us to be dogmatic with regard to the nature of the specific causal organism. But in a very large proportion of such examinations some form of pneumococcus has been the predominant organism, and in some cases it has been the only one grown. This, coupled with the fact that some form of pneumonia is a frequent complication, renders it possible that the pneumococcus is to blame. But whatever the organism may prove to be it is one which attacks the faucial and post-nasal lymphoid tissue, producing a form of inflammation which is not acute, so that pain is seldom complained of; it is typically a chronic inflammation in the course of

which the lymphoid tissue becomes softer and larger. The infection spreads to the lymphatic glands, draining the inflamed area, causing them to enlarge.

In an uncomplicated case there is no tendency to suppuration either in the lymphoid tissue itself or in the lymphatic glands. Suppuration when it occurs is probably always due to the implantation of one or more of the common pyogenic organisms on a tissue the normal resistance of which has been impaired by disease.

If so much be accepted we may fairly claim that the disease is highly infectious, and that children suffering from it are "carriers," and therefore a source of danger to others.

The treatment required is that of the individual, and preventive treatment.

### 1. *Treatment of the Individual.*

The ideal is to render the post-nasal space sterile and the diseased tissue normal; it is doubtful whether this ideal can ever be attained, for the tonsils and adenoids, once they are infected, never appear to regain their normal structure. As in other chronic infections elsewhere, the process whereby infection is eliminated is one in which the diseased tissue is replaced by fibrous tissue, and not until the fibrosis is complete can the disease be said to have been arrested. In this condition, as in other chronic infections, the "natural" cure postulates the disappearance of function in the affected structures.

In these circumstances it is unlikely that any medicament will ever be satisfactory; and it is certain that at the present time there is no local application capable either of rendering the post-nasal space sterile or the infected lymphoid tissue normal in structure and function.

In view of the failure of this method of achieving our object we must resort to surgery, and anticipate Nature by removing as much of the diseased tissue as possible. The great advance made in recent years in the treatment of the individual is by the introduction of the operation of enucleation of the tonsils and thorough removal of the adenoid mass.

After this operation, efficiently performed, the majority of children show improvement at once, in that the rhinitis disappears, the cervical glands cease to be palpable, the beds of the tonsils and pillars of the fauces become healthy in appearance, and in some cases the post-nasal space becomes sterile; a sufficient number of bacteriological examinations have not, however, yet been made for us to be sure that this happens in the majority of cases.

There is a definite relation between the thoroughness of the operation and the number of "cures" effected. Partial removal is followed by disappointing results; children are frequently seen of whom it is stated that they have undergone removal of tonsils and adenoids two or even three times, yet the three cardinal physical signs are found still to be present, and, in addition, some complication, such as running ears, which was not present at the primary partial removal.

Apart from such cases as these, there are a few in which even after thorough removal the disease continues unchecked. Perhaps in some of these the lingual tonsil and lateral bands which cannot be removed are sufficient to keep the infection active. In others the inferior turbinals, which sometimes remain enlarged, would appear to be the cause. In the remainder possibly the causal organism is of a different nature, and is able to thrive in the nose and post-nasal space even after the diseased lymphoid tissue has been romoved.

### 2. *Prevention.*

The reason why no steps have hitherto been taken with regard to the prevention of this disease is possibly to be found in the fact that its infectious nature has not received the attention it deserves.

Preventive measures have been taken with regard to other diseases spread by carriers, such as diphtheria and cerebro-spinal meningitis, which are not nearly so common or far-reaching in their complications, though they are more immediately serious to the individual in that they are more acute; yet in the aggregate the amount of harm done to the community as a whole is insignificant compared to that done by the disease in question.

The harm done by chronic infection of the lymphoid tissue of the fauces and post-nasal space is very great. Its direct complications are far-reaching, spreading beyond the sphere of the throat and ear surgeon, the ophthalmic surgeon, and the laryngologist, into the domain of the physician, in the shape of bronchial affections and lobar and broncho-pneumonia.

Its indirect complications are even more serious, for the lymph id tissue, having lost its natural resistance, is rendered more liable to become a port of entry for other specific infections such as tubercle, rheumatic fever, measles, scarlet fever, diphtheria, and influenza. If preventive measures which resulted in lessening the incidence of this disease were adopted, the incidence of all its complications, both direct and indirect, would be lessened also. Further, recognizing that in the above list of complications are included the diseases from which a large proportion of the death and disability of the community results, the importance of stamping out the origin to which they can all be traced is evident.

A discussion of the details of prevention would unduly prolong this article; the difficulties are numerous, but by organization on sound lines much could be accomplished. Encouraging results may be confidently expected from the adoption of open-air schools and vaccination, but before the latter method can be used the specific organism must be definitely isolated.

It is to be hoped that the Ministry of Health will consider the subject of prevention of this "carrier" disease, for until adequate measures are adopted the disease and its complications, both direct and indirect, will continue to be rampant.

*Summary.*

1. The disease is highly infectious.
2. It is spread by carriers.
3. Its complications cause widespread death and disability.
4. The treatment of the individual is satisfactory if complete removal be carried out.
5. The necessity for preventive measures is urgent.

## RUPTURED GASTRIC ULCER IN AN OLD MAN: LAPAROTOMY: RECOVERY.

BY

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AND

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A SUCCESSFUL case of laparotomy for ruptured gastric ulcer at an advanced age is sufficiently rare to justify the publication of the following:

Mr. W. G., retired civil engineer, aged 78½ years, had enjoyed good health all his life and was never known to suffer from dyspeptic symptoms till within a week or so of his present sudden illness. He had always been very regular in his habits and most abstemious in diet. Lately he had confined himself to two substantial meals a day, breakfast and lunch. The latter meal was generally taken at 2 p.m. A cup of tea without solid food at 6.30 p.m. completed his diet for the day, and nothing more was taken until next morning.

*History.*

In April, 1909, he was operated upon by one of us (A. F.) for stone in the bladder, and in May, 1911, for enlarged prostate. Except for a small ventral hernia in the neighbourhood of the suprapubic scar, he had remained well until a week previous to the present illness. During this week he had suffered from rather vague dyspeptic symptoms with some tenderness in the right epigastric region. On the day of perforation, December 16th, 1919, he had a meal of haddock and rice pudding at 2 p.m. At 6 p.m. he was sipping his usual evening cup of tea when a sudden severe pain in the epigastric region doubled him up. When seen at 7.30, he was in great agony, cold, clammy, and blue, with rigid abdomen and dilated pupils. The pulse was 50, weak and irregular, and his general condition so serious that death appeared imminent. He was given morphine gr. ⅓ in three doses at short intervals, with very little if any relief of pain. At 9 p.m. he was again thoroughly examined. The abdomen was like a board, the liver dullness was diminished but not lost, and there was no evidence of fluid in the flanks; he was cyanosed, the pulse was 65, and the heart's apex was outside the nipple line. His arteries were hard, tortuous, and ringed. There was no vomiting. The pain was now more general, but the maximum intensity was in the epigastrium. The bowels had acted as usual that morning.

*Operation.*

It was decided, on consultation with his friends, to give him the slight chance that operation alone afforded, and he was removed to a neighbouring nursing home. The operation was begun five hours after the onset of pain. Ether, with a small quantity of alcohol and chloroform, was administered by Dr. Robert Marshall, and anaesthesia was quiet and satisfactory. In addition, conduction anaesthesia was produced by blocking the intercostals with novocain, and good relaxation was obtained. The abdomen was opened in the middle line above the umbilicus. On incising the peritoneum a quantity of thin, slightly turbid fluid, with some gas, escaped. A punched-out, circular aperture about the diameter of a lead pencil was found in the stomach. From this exuded a small quantity of dark-coloured mucoid fluid. Surrounding the opening for at least an inch the stomach wall was indurated, inelastic, and friable. There were some omental adhesions to the upper part of the indurated area. The ulcer was situated on the anterior surface, three or four inches from the pylorus, and near the lesser curvature. The edges of the ruptured ulcer were infolded with difficulty, owing to their rigidity and friability, by two rows of linen thread sutures. A piece of omentum was sewn over the repair for greater security. The fluid lying in the neighbourhood was mopped up and the abdomen was closed in three layers without drainage, the whole procedure, including the induction of anaesthesia, having lasted twenty-six minutes.

*After-History.*

Recovery was uneventful, and the patient left the nursing home within three weeks, apparently quite well.

He was examined on January 22nd, 1920, about five weeks after the operation, and was then free from pain, in his ordinary health, and able to get about as usual.

## A METHOD OF TREATING TINEA.

BY

C. J. GLASSON, M.D., M.R.C.S.ENG., L.R.C.P.LOND.,

LATE CAPTAIN R.A.M.C., AND OFFICER IN CHARGE X-RAY DEPARTMENT, NETLEY.

As a result of so many men having to serve in many districts of the East (India, Mesopotamia, and Egypt) and East Africa, a form of tinea, known in the East as dhobie or washerman's itch, has become prevalent in England.

This variety invariably attacks the crutch and upper and inner surfaces of the thighs, sometimes extending upwards around the root of the penis and posterior part of the scrotum; the intense irritation causes a desire to scratch, accentuated at night and leading to insomnia. It is very contagious, and may easily be conveyed to others by laundries unless means are used to disinfect the clothing and sheets effectually before they are sent to be washed. Patients should be isolated completely until a cure is obtained.

I have treated many cases, both at home and abroad, with success by a combination of *x* rays and chrysophanic acid ointment (gr. xxx to ʒj of lanoline).

An ordinary *x*-ray tube of medium hardness may be used, or, better, one of the later "gas" tubes which can be regulated, or, best of all, the Coolidge tube, as by its use the hardness required can be got and the exact dosage wished given. If a "gas" tube is used it should be tested to give a penetration of 8 by Wehnelt's radiometer. With a Coolidge tube the battery should be 4 ampères, and the primary current should give a reading of 8 to 10 milliampères.

When the tube selected is ready the patient undresses and lies upon a couch, so that the part to be treated can easily be got at. Every part in this region, except that to be treated, must be adequately protected; this can best be done by a sheet of the prepared lead-lined rubber the same as used in protective aprons. Over the part to be treated is placed a thin sheet of lead $\frac{1}{16}$ in. thick, with a hole a little larger than the exposed part. A thin layer of the chrysophanic ointment is spread all over the part and a little beyond the outer borders of the tinea. The tube is then brought into position so that the target is directly over the centre of the part to be treated, and from 8 to 10 in. away from the surface of the skin; an exposure of five minutes exactly is given. Having finished one area, the application is made with the same precautions to another patch.

The dose is large, but I cannot give the exact amount, none of the methods at present in use being reliable. I measure by time guided by experience.

After the treatment is finished the ointment should be wiped off the skin in order to prevent staining of the linea or clothes by the chrysophanic acid.

In 90 per cent. of the cases treated in this way one application was sufficient to cure; in a few a second was given to make doubly sure.

For the first two days the skin shows a brown pigmentation due to the chrysophanic acid; this gradually disappears with slight desquamation, and by the end of a week the skin is clear and normal, the tinea having disappeared. Several cases, even those of long standing, cleared in two or three days.

In brunettes or dark-haired people no filter is necessary, but in persons who are fair or with a tinge of red in the hair a filter should be used, $\frac{1}{16}$ in. aluminium being sufficient; in red or coppery-red-haired people $\frac{1}{8}$ to $\frac{3}{16}$ in. will be necessary. Fair-haired and very red-haired people are much more susceptible to *x* rays, and in them I have found it necessary to reduce the time of exposure to three minutes, otherwise a radio-dermatitis with deep pigmentation due to the chrysophanic acid will result; this is, however, easily got rid of by zinc ointment.

The same treatment can be carried out with tinea on any other part, but before applying the ointment the tinea should be washed with ether soap. By the same method psoriasis also can be got rid of, but it does not cure, as patches always return either in the spring or fall of the next year.

*X* rays alone will not cure this very irritating complaint; the chrysophanic acid ointment will in time, but it stains the clothing. The two combined will cure, and, curiously enough, all irritation ceases after the application, so that patients are not worried and get at once a good night's rest.

There should not be the slightest risk to any patient of sterilization if proper precautions are used to protect the generative organs.

# Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

### HERPES ZOSTER AND GREYNESS OF HAIR.

THIS is a case in which grey patches appeared in the hair of the right side of the face during an attack of herpes zoster which affected the region of the right forehead.

The attack of herpes zoster and the appearance of the grey patches occurred in 1887. The patches of greyness were permanent; they are now becoming merged in the general greyness of advancing years.

It can be seen in the figure that the patches of greyness appeared on the fronto-nasal (inner extremity of right eyebrow), naso-labial, and mental maximum points described by Dr. Henry Head in *Brain*, Part III, 1894, "On disturbances of sensation with especial reference to the pain of visceral disease."

I venture to publish this case for two reasons: the first is that it supports the observations I have published in many articles in this JOURNAL on the relation between certain forms of the hair's greyness and the nervous system; the second reason is that it is so difficult—at least I find it difficult—to discover any additional changes of nutrition accompanying lesions of herpes zoster. The grey patches of hair observed in this case appear to me to exhibit an additional change of that kind. The figure here produced is made from photographs taken years ago. The subject is a doctor, who has kindly given them to me with the history of his case.

London, W. G. LENTHAL CHEATLE.

### ATROPINE IN ACUTE SUFFOCATIVE CATARRH.

As acute suffocative catarrh is, in my experience, very rare, I wish to mention one case I treated some years ago.

A gentleman, aged 70, went to bed one night quite well,

but in an hour awakened suffocating, with blood-stained froth coming in such quantities from his mouth that it half filled a large basin. I saw him about twenty minutes after the onset of the attack. Crepitant râles were heard all over his chest, there was great distress in breathing, and the pulse was irregular; there was no fever.

I injected at once $\frac{1}{100}$ grain atropine sulphate and $\frac{1}{15}$ grain strychnine nitrate, and administered oxygen by inhalation. I also gave three separate drachm doses of sal-volatile at intervals during the night. I left him next morning at 9 o'clock, practically as well as ever. I considered the atropine to be the chief factor in producing his recovery.

Dublin. WM. VERNER FURLONG, M.D.

## TWO CASES OF HEMIPLEGIA.

THE two following cases of hem plegia present certain points of interest; both occurred in a ward under my charge in a war hospital.

CASE I.—A soldier, aged 26, was much upset by Zeppelin raids. During a raid he was found late one evening lying underneath his bed; next morning he had right-side hemiplegia and partial aphasia, which gradually became more complete. Fluid obtained by lumbar puncture and blood gave negative results to Wassermann's test. He lived for about five mo ths. *Post-mortem* examination showed an old altered blood clot in a cyst-like cavity in the usual area (internal capsule).

CASE II.—This case had generalized and rapidly increasing signs in the lungs diagnosed as probably a miliary tuberculosis. The sputum was very scanty, and tubercle bacilli were not observed in it. About the sixth day after admission he complained of diplopia, and there was evidence of involvement of the third nerve on the left side. This was quickly followed by right hemiplegia and rapidly increasing coma. At the *post-mortem* examination extensive miliary nodules were found throughout both lungs, and four very small yellow nodules in the meninges at the base of the brain, accompanied by encephalitis spreading into the left crus cerebri. A smear from lung, and also one of the nodules in the meninges squeezed out on a slide, both showed many tubercle bacilli.

KENNETH ROGERS, O.B.E., M.D.Lond.

## RIFLE BULLET IN BLADDER.

ON the night of September 2nd, 1919, Pte. J. B., aged 20, was troubled with an "itchy sensation" in the urethra and tried to relieve this by passing a rifle bullet into the meatus. This he accomplished without pain or discomfort, and "suddenly the bullet slipped right down and disappeared." He at once reported to his medical officer, who passed a catheter into the bladder, meeting no resistance. He was sent to hospital on September 4th and came under my care on September 8th.

During these six days after his "accident" the only symptoms complained of were occasional slight delay in commencing micturition and a sensation of something inside the bladder. He stated that he could feel the bullet change its position when he rolled over suddenly in bed or if he stooped forwards quickly. *X* rays showed the bullet lying transversely in the pelvis. Chemical examination of the urine showed no abnormality, but a catheter specimen taken just before operation and examined microscopically revealed ample evidence of infection—the bacteriologist reporting "numerous organisms present; pus cells; oxalate crystals and epithelial (bladder) cells."

The bullet was removed by suprapubic cystotomy (extraperitoneally) on September 10th, the bladder wall sutured in two layers and the wound closed without drainage.

Apart from a mild degree of cystitis which rapidly responded to treatment the patient made an uneventful recovery and was evacuated on October 2nd, 1919.

F. R. BROWN,
Major R.A.M.C (T.C.); Surgical Specialist, — Casualty Clearing Station, Batoum

## A "FROGHOPPER" AS A BLOOD-SUCKING INSECT.

To add to the list of the several blood-sucking insects already known I now send in the name of a member belonging to the order Homoptera or Hemiptera-Homoptera. So far as I am aware this order has not supplied any instance of a species with such propensities. In Madras, especially after the north-east monsoon—that is, in the months of November and December—large numbers of small whitish-green "froghoppers" come to light at night, and some of these bite, or rather sting, by means of their sharp proboscides. Several people used to complain to me of being stung by these insects, but, not being cognisant at the time of such habits among the Homoptera, I discountenanced these tales of the presumed aggressors. It was only when I was myself a victim of the insects' action that I was disillusioned.

These insects sting both at night and on cloudy days. I procured four of these "froghoppers," two caught actually in the act of sucking blood and two others hopping about at the same time and place. These I took to Dr. Gahan, of the South Kensington Museum, and they were identified by Mr. Distant. The two blood-suckers were *Phrynomorphus indicus*, Distant, and the other two included one of the same species and another Jassid, named *Nephotettix bipunctatus*, Fabr., which I cannot accuse of any malpractice. Dr. Gahan tells me that Dr. Guy Marshall informs him that he has from time to time received Jassidae sent to him from Africa as blood-sucking insects, but he does not know of any records of the kind published.

In adding this member to the list of blood-sucking insects I wish to demonstrate that we have reached no finality in our knowledge of sanguinivorous flies.

London, W. C. DONOVAN, Lieut.-Colonel, I.M.S.

## CAESAREAN SECTION FOR PLACENTA PRAEVIA WITH CONCEALED HAEMORRHAGE.

THE case reported by Mr. Arthur Cressy in the BRITISH MEDICAL JOURNAL of November 29th, 1919, p. 706, is similar to one with which I had to deal recently.

A woman, aged 39, pregnant for the fourteenth time, was admitted to the Nightingale Maternity Home, Derby, on May 14th, 1919, in a state of profound collapse. Her daughter said she had been bleeding for a week. When I saw her she was cold, blanched, and almost pulseless and had an irritating cough. Haemorrhage from the vagina continued. The cervix admitted one finger and a soft mass presented. The abdomen was distended, rigid and excessively tender. The uterus was hard. There was marked dullness in both flanks. Her whole appearance reminded me strongly of cases of bullet wound of the abdomen, and I decided to treat her on the lines we adopted at a casualty clearing station for such cases.

*First Operation.*

A hypodermic injection of morphine and scopolamine was given at once. Half an hour later she was anaesthetized with ether and oxygen. An intravenous transfusion of alkaline hypertonic saline was set going and during the operation 2½ pints were administered. On opening the abdomen blood escaped and about 2 pints were removed from the peritoneal cavity. The uterus was very distended and blood oozed steadily from several tears in the perimetrium, which, however, did not extend deeply into the muscular layer of the uterus, but explained the presence of blood in the abdomen. On incising the uterus a large clot was found separating the placenta and membranes from the lower hemisphere of the uterus. The membranes containing the fetus were shelled out intact. On account of the perimetrial tears I performed subtotal hysterectomy. The peritoneal toilet was completed and the incision closed layer by layer. The patient was in the theatre about half an hour.

*After-History.*

Shortly after her return to bed her condition was distinctly better than on admission, but the pulse was poor. During the night she was much disturbed by the cough, which was partly relieved by a hypodermic injection of heroin ⅛ grain.

Next day she still suffered from blood shortage, and I transfused 1½ pints of blood from her daughter. The improvement was striking. Listlessness, pallor, and subnormal temperature gave place to restlessness, flushed face, a temperature of 103°, free action of the skin, and improvement in the volume of the pulse. The following day her condition was very satisfactory, and the temperature 99.2°. The severe cough only distressed her. The temperature settled down to normal on the fourth day, and remained so till the ninth, when the stitches were removed. Early the following morning, during a very severe fit of coughing, the wound burst open and the intestines escaped beneath the abdominal dressing. They were skilfully replaced by the night nurse, who retained them in position by packing with abdominal swabs. I removed these two days later and found the wound clean and adhesions formed. The temperature, which had risen to 102° after the packing, settled to normal in two days, and the wound healed rapidly, with no suppuration. On the fifteenth day her condition was satisfactory, and I went away for ten days' holiday.

*Second Operation.*

On my return I was surprised to find that there had been a running temperature, and that she had the appearance of septicæmia. On vaginal examination I found a soft fluctuating mass in the pelvis. Under an anæsthetic I opened through the posterior fornix and evacuated large quantities of pus and an abdominal swab. I accepted the responsibility of leaving this in the abdomen at the time of operation, until I found that it did not correspond with the swabs then used, being of different size and having no tape attached to it. It was, however, recognized as one used by the nurse when she replaced the intestines on the ninth night, and it must have been introduced deeply into the abdomen with a coil of bowel. The temperature fell to normal five days later, and for the next three weeks rose only twice to 99° F.

*Death.*

As she showed no sign of regaining strength, she was removed to a sanatorium where she could have open air, but she died a fortnight later, about two months after the Cæsarean section.

On inquiring into her previous history I found she was a confirmed alcoholic. There was also evidence that the haemorrhage was preceded by a sharp attack of influenza, for which she had stayed in bed ten days but had not seen a doctor.

Two conclusions can, I think, be drawn from this case: (1) That Cæsarean section is the right method for delivering this class of case, and (2) that adequate methods for counteracting haemorrhage and collapse will give results as satisfactory in civil practice as in war surgery.

R. DOUGLAS LAURIE, M.B.,
Derby. Hon. Assistant Surgeon, Derbyshire Royal Infirmary.

## VOLVULUS OF THE WHOLE JEJUNO-ILEUM.

A LABOURER, about 45 years of age, was admitted to the J. J. Hospital one afternoon as an emergency case, with a history of abdominal pain, vomiting, and constipation of four days' duration. He was a well developed and well nourished man, and gave no history of any previous abdominal trouble. He did not look acutely ill. The pain was generally distributed all over the abdomen, which, though distended, was not tense. No particular spot of maximum tenderness was made out. He vomited only after food. The constipation was absolute. An enema was given without result. He was immediately prepared for operation.

On incising the peritoneum, greatly distended coils of small intestine protruded through the wound, rendering further exploration impossible. Enterotomy was performed in two places, and about three pints of faecal fluid removed. This permitted the necessary manipulations. The whole of the small intestine was found to be distended. The colon was empty and contracted. On tracing the ileum from the caecum upwards it was found that about six inches from the ileo-caecal junction it was tightly compressed by and kinked over the mesentery, the whole of which was twisted completely round once, from right to left (reverse clock-wise). The volvulus was relieved by giving the mesentery one turn in the opposite direction. At the seat of compression the peritoneal coat of the ileum was damaged. This was repaired by Lembert sutures, and the wound was closed without drainage.

Healing took place by first intention and convalescence was uneventful, except for an attack of abdominal pain and distension during the second week, which was relieved by an enema. He left hospital quite well at the end of the third week.

Leichtenstern's description, quoted in Treves's *Intestinal Obstruction*, fits this case exactly. Although the obstruction had lasted four days, the patient's general condition was not bad on admission. The placid expression, the absence of severe pain and vomiting were remarkable. A possible explanation may be that the onset of the volvulus was gradual, and that the compression of the ileum took place late in the course of the illness.

I have to thank Lieut.-Colonel A. Street, I.M.S., S.M.O. J. J. Hospital, for permission to publish this case.

B. P. SABAWALA, F.R.C.S.Ed.,
Captain I.M.S. (Hon. T C.),
Honorary Surgeon J. J. Hospital, and
Marine Lines War Hospital, Bombay.

DR. LÉON BERNARD, Professor of Hygiene in the Faculty of Medicine, Paris, and a well known writer on tuberculosis, has been elected a member of the Académie de Médecine. Dr. Lesbre of Lyons and Dr. Lignières of Buenos Aires have been elected correspondents.

# Reports of Societies.

## GAS POISONING

AT a meeting of the War Section of the Royal Society of Medicine, held on February 9th, a discussion was held on the subject of gas poisoning in warfare.

*Drift Gas.*

Sir WILMOT HERRINGHAM said that in April, 1915, in a Canadian field ambulance in France, he came across three French (Algerian) soldiers who said that while they were in their trenches they had seen the Germans opposite come out bearing certain tubes from which they poured some stuff out on the ground and set light to it, whereupon clouds of choking smoke had drifted towards the French line. The story was subsequently found to be inaccurate in certain particulars. Chlorine had been used in this first attack, and its change from colourlessness to white and green had deceived the Algerians into thinking that it had been ignited. That was the speaker's first introduction to the effects of stifling or asphyxiating gas used in warfare in the form of clouds or drifts. At about the same time he also saw the effects of lacrymatory gas, for there was brought into the dressing-room a man whose clothes smelt strangely, and in a few minutes no one could remain in that room because of the severe watering of the eyes which was occasioned, yet this man had been lying out in the open for four hours on a windy day. Three days after the first gas attack another attack was made, and as a result of this he found six or seven hundred men in the two hospitals at one centre all suffering from its effects. They were gasping for breath, coughing, and bringing up thin yellow, frothy fluid, which often ran out of their mouths when they lay on their sides. Various measures of treatment were tried at that time, but nothing seemed to be of very much use. He had never before seen a cyanosis which did not yield to the ordinary administration of oxygen. The methods of employing oxygen were those that had been customary in dealing with pneumonia and the like, and they were not of the slightest use. He was inclined to think at first that the cyanosis must be due not to reduced haemoglobin, but to a morbid change in the haemoglobin; that supposition, however, was proved to be wrong. In *post-mortem* examination the effects found were mainly three—laryngitis, extreme oedema of the lungs, and emphysema. Experiments were immediately made in England with the object of elucidating the pathology, and it was soon shown that the chief symptoms, if not all of them, might be explained by the impossibility of getting oxygen into the blood through the great wall of oedema. He could not help thinking that, to explain the rapid collapse, there must have been some further action on the heart. Presently it became possible to divide these cases into three groups. The first were the "grey" cases, which collapsed almost at once; in these cases, as a rule, nothing could be done. Then came an intermediate group of cases, which required very close supervision; here neglect was dangerous, but otherwise there was good hope of recovery. The third group were cases only slightly affected, which recovered even though more or less left alone. The mainstay of treatment was oxygen, and the speaker showed the makeshift apparatus, such as improvised petrol tins, which were used until Dr. Haldane's apparatus became available.

*Mustard Gas.*

Attacks with chlorine gas went on all through the summer of 1915; in the course of the winter phosgene was substituted. Later, gas shells took the place of drift. The British forces were the first to employ gas in projectors. In July, 1917, came mustard gas attacks. He saw the first *post-mortem* examinations of these cases, and when the attack was repeated a fortnight later near Nieuport he saw the first gassed men brought in. The principal action of chlorine and phosgene was to produce an enormous oedema; that of mustard gas was first of all to inflame the eyes, though little permanent injury resulted to the eye; secondly, to scorch the air passages; and thirdly, to scorch the skin. The main danger was septic bronchopneumonia,

produced by sloughing of the membrane of the trachea. Sir Wilmot Herringham mentioned that a research chemist in this country who was accustomed to pay periodical visits to Germany before the war was there in 1909, when, walking in the country, he detected a strange odour, and, following it up, came to a small hill on which were a number of soldiers and also some sheep; several of the animals appeared to be dead. He was not allowed to trespass further, but it was evident that he had come upon some poison gas practice for German military purposes.

Colonel C. G. DOUGLAS said that gas warfare could be conveniently divided into three phases: first, the cloud gas on a limited front; then the lethal gas shells; and, finally, the mustard gas poisoning. Mustard gas caused 80 per cent. of the total gas casualties during the period for which it was employed. The problem that confronted the medical officer in treating gas casualties in modern warfare differed according to the character and mode of action of the gas. In the case of lung-irritant gases the most difficult task was to tide the patient over the first forty-eight hours. In the case of mustard gas the mortality was comparatively low; where death occurred it was caused by bacterial infection of the bronchial tubes, and the medical officer's concern in dealing with mustard-gas cases was to cope with the large number in which eyes and skin were affected, and to get the cases cured as quickly as possible. In chlorine and phosgene poisoning late deaths were infrequent; death, when it occurred, was almost immediate. In mustard gas poisoning, on the other hand, the deaths did not reach their maximum until the fourth day after exposure, and their incidence fell slowly, so that there were deaths on the tenth or twelfth day or even later.

*Pathology of Poison Gas.*

Major J. W. MCNEE said that with chlorine gas the pathological lesions were comparatively simple; the lesions were entirely those brought about by a pulmonary irritant. The only subsequent condition of any importance was that during the period of convalescence a certain amount of bronchitis was commonly found. With regard to phosgene the conditions were somewhat different. Phosgene gave rise to lesions which were distal from the lungs. In the lungs the lesions were similar to those caused by chlorine, with great oedema and disruptive emphysema. It was on the distal effects of phosgene that he wished to lay stress. Clinically, phosgene had in some way a definite effect on the heart not seen in the case of chlorine poisoning. In phosgene a larger proportion of cases were pallid and suffered from circulatory failure. In addition to the emphysema and oedema, a considerable capillary thrombosis in the lung was frequently found. Hyaline thrombi were also to be found in the capillaries of the brain. The pathology of mustard-gas poisoning was entirely different. After a latent period, generally of about a day, an intense inflammatory reaction took place, resulting in the bronchial membrane becoming entirely necrosed. In dealing with war pensioners he had noticed that men who had been gassed showed a tendency to develop bronchitis during foggy weather. He also found among these pensioners a number of cases of what the French called pseudo-tuberculosis, with cough and expectoration, some alteration of the *x*-ray picture, but no tubercle bacilli. This was believed to be due to fibrosis around the lumen of the bronchi.

*Anti-gas Measures.*

Colonel S. L. CUMMINS addressed himself to the defensive rather than the clinical measures. The first gas attack found them entirely unprepared, but within a few weeks defensive measures were well in operation, thanks to Professors Haldane, Baker, and Watson, and also the help of Colonel Horrocks and others at home. At first the anti-gas defence was run as part of the medical service, but a stage was soon reached when it became evident that this question was not wholly a medical one. Commanding officers of regiments in the line had to detail somebody to make wind observations; gas discipline, also, was a regimental responsibility. Therefore he came to see, as did others, that defence, like offence, should be made an administrative service. But working with the fighting services, maintaining the closest possible touch, and aware of every secret development, must be the medical service, whose officers were responsible to the Director-General for work on the physiological and medical side.

Professor J. S. HALDANE said that the clinical evidence was very clear that in certain cases bleeding did relieve symptoms. Resort to bleeding was familiar to him before the war in cases of poisoning from nitrous fumes. The reason people thought of bleeding was because the sufferer's veins were distended. The only cases which were benefited by bleeding were the "blue" cases; in the "grey" cases it was of no use. With regard to anoxaemia, a serious anoxaemia was, to his mind, a very dangerous thing. Anoxaemia in the "grey" cases was far worse than in the "blue," for the reason that in the "blue" there was probably an excess of $CO_2$ in the blood as well as a deficiency of oxygen.

*Late After-effects.*

Dr. J. A. RYLE said that he was inclined to divide the late effects of gas poisoning into four groups: (1) A small proportion of cases showed gross damage. These were cases of chronic bronchitis, awakened tuberculosis, and cases not specifically described but to which he would apply the term bronchiectasis, the result of mustard-gas poisoning. (2) Cases of structural damage which could be demonstrated, but was not superficially obvious. In most of these cases a history of pneumonia following "gassing" would be found. (3) Cases of "D.A.H.," or Lewis's effort syndrome group. (4) Functional cases, in which there was often vomiting, giving rise to a diagnosis of chronic gastritis. These cases of vomiting, however, were, he thought, functional, and many of them had been cured by methods of re-education and persuasion.

Dr. T. J. BENNETT asked for experience as to gastro-intestinal symptoms in "blue-cross" gas shell (arsene) cases.

Sir WILMOT HERRINGHAM, replying to the last speaker, said that he did not remember any blue cross gas shell cases with intestinal symptoms. The most interesting thing about these cases was certain nervous developments, chiefly of the nature of paralyses and anaesthesias, but so far as he knew the effects quickly passed off, save for some loss of reflexes.

## TYPHUS AND RELAPSING FEVER IN THE EAST.

AT a meeting of the Section of Medicine of the Royal Society of Medicine, held on January 27th, the President, Dr. A. F. VOELCKER, being in the chair, Dr. W. H. WILLCOX, in the course of a paper on typhus and relapsing fever in Mesopotamia and Northern Persia, dealt fully with the history of the two diseases and gave accounts of outbreaks during 1916, 1917, and 1918 in those countries.

*The Louse Factor.*

The etiological factors were all in accordance with the view now generally held that the body louse is the main channel of infection of both diseases. The factors associated with prevalence of the diseases were likewise favourable to the life and multiplication of the body louse. It was pointed out that these diseases were endemic in Northern Persia. In Persia, owing to the lower degrees of maximum temperature, occurrence was all the year round, while in Mesopotamia the great heat of the summer would effectively stamp out the diseases. In Lower Mesopotamia the diseases were uncommon amongst the natives, the temperature conditions being adverse to their spread. In the Baghdad area, however, the diseases occurred practically always in the early part of each year; they were, no doubt, brought along the caravan routes from Persia and the upper regions of the Euphrates and Tigris by pilgrims and others. The Turkish troops in Mesopotamia during the whole war suffered terribly from typhus and relapsing fever, and an interesting account of their prevalence, written by a doctor who had served with the Turkish army during this period, was related. Another source of the diseases in 1918 was the influx of the great number of refugees, some 50,000 in number, from the lower Caspian region. These brought with them a heavy louse infection accompanied by cases of both diseases. In 1916 and 1917, since communication with the local Arabs in the infected areas had not been

established, the main source of infection of the few cases that occurred was from Turkish prisoners. Those of our troops who came into contact with them—such as medical personnel, motor transport, drivers, military guards—ran serious risks of infection. After the occupation of Baghdad and the occupation of the large areas of Northern Mesopotamia the troops came more into contact with the local population, so that in 1918 the main source of infection was the local population (Arabs, Kurds, and Persians). Many of these had been enrolled into native labour corps, and in them both diseases occurred, so that those of our troops who were brought closely into contact with these men ran grave risks of infection; thus the medical personnel, ambulance and transport drivers, military police, and those in charge of the native labour corps were specially exposed.

*Other Channels of Infection.*

With regard to other channels of infection than the louse, it was pointed out that since the excreta probably contained the virus of the disease, general precautions to limit infection were necessary in the nursing of patients. With typhus no case was observed where the disease had spread from patient to patient in hospital, and no case was known of the spead of this disease where the agency of lice could be excluded. With relapsing fever the risk of infection appeared decidedly greater. Several instances occurred where the disease had spread from a patient to another person where every precaution had been taken to prevent access of lice. Two cases were quoted in which a bacteriologist contracted the disease after taking blood from a patient for examination; in each case the usual incubation period intervened, and it seemed likely that the blood of an infected person might convey the infection, also possibly the excreta in cases of a relapsing fever might serve as carriers of the disease. An unusual type of relapsing fever occurring in Northern Persia at Mianeh was described; this appeared to be conveyed by a tick known as the Mianeh bug, and the symptoms resembled those of ordinary relapsing fever such as occurred in Mesopotamia, the attacks being perhaps more severe. No opportunity of blood examination in these cases occurred. The close association of typhus fever and relapsing fever was alluded to, and also the interesting fact that a patient suffering from one of these diseases might carry on him lice which were capable of producing both diseases. The native population (Arabs, Kurds, Persians) appeared to have considerable immunity to typhus fever, and often had the disease in a very mild form. The occurrence of outbreaks of typhus and relapsing fever amongst the troops was described, and the source of the different outbreaks traced. The interesting feature of the Mesopotamian campaign was that, owing to the difficulties of communication through the long distances between the posts where troops were stationed, the origin of each outbreak of disease could usually be traced, and the spread of infection effectively guarded against. At no period did these diseases get out of control, and outbreaks were quickly localized and stamped out.

*Symptoms and Treatment.*

Special attention was drawn to the marked severity of the mental symptoms in typhus and to the profound effect on the brain, lasting many months after the fever had subsided. Lack of concentration and inability for mental effort, associated with a condition of slight deafness, commonly lasted for at least six months. An important diagnostic symptom in the acute stage of illness was the loss of the knee-jerk which usually disappeared about the fifth day and remained lost during the febrile stage and for a varying period after this had subsided. In severe cases a condition of coma with incontinence sometimes lasted for a week or more after the temperature had become normal. The character of the rash and its distinctions from the rash of enteric and paratyphoid and other rashes which occurred in Mesopotamia were fully described. In the treatment of typhus attention was called to the great value of administration of normal saline. In severe cases this was given rectally every four hours, commencing about the eighth day, and in the later stages subcutaneous and intravenous saline were given. Where symptoms of venous thrombosis threatened, an intravenous injection of normal saline containing ½ per cent. and 1 per cent. of sodium citrate was of value.

The symptoms also of relapsing fever were fully described, and attention was called to the cerebral type of the disease in which marked mental symptoms occurred. The value of kharsivan or salvarsan in the treatment of this disease was emphasized, and a dosage of 0.3 gram was recommended (or 0.45 gram of neo-salvarsan). Almost invariably the temperature would fall to normal within eighteen hours, and usually no relapse occurred. In a series of 241 cases treated by kharsivan, in only 5 per cent. did relapses occur. Doses smaller than 0.3 gram were found to be inefficient, while doses greater were inadvisable owing to the risk of hyperpyrexia. When a relapse occurred after the dose of kharsivan recommended it was usually of a very mild nature, and generally the apyrexial period was much prolonged.

## APPENDICECTOMY INCISION.

AT the meeting of the Section of Surgery of the Royal Society of Medicine held on February 4th, with Sir JOHN BLAND-SUTTON in the chair, a paper was read by Mr. R. H. A. WHITELOCKE of Oxford on appendicectomy by a new route. The paper appears at p. 211. In the discussion which followed—

Mr. G. A. R. NITCH questioned whether the particular incision advocated gave sufficient room for dealing with acute perforating appendicitis when there was a large collection of fluid in the pelvis. It was very necessary to sponge that fluid out, and he thought it must be difficult to get the sponge down into the bottom of the pelvis without using a considerable amount of force.

Mr. H. J. PATERSON said that this small incision had the grave disadvantage that with its use it was impossible to get an adequate exposure of the abdominal contents. He took it that the chief reason for adopting the method was to avoid the risk of subsequent hernia. That risk, however, could be obviated almost entirely by making the incision in the middle line of the abdomen. He held very strongly that the right place to operate was through the middle line, which made it possible to ensure that no secondary foci were left undrained.

Professor RAYMOND JOHNSON said that he did not feel inclined to change his usual habit of operating after hearing the information given them that evening. He was not quite clear what particular advantage was claimed for the new route. He disagreed entirely, however, with Mr. Paterson as to taking the middle line. His feeling was that that was absolutely the worst position to take. The advantage which the middle line offered of dealing with small pockets of pus was a very small one to put in the balance against its obvious disadvantages.

Mr. MCADAM ECCLES said that the incision was likely to be very useful in certain cases, but it would be a most disastrous incision in cases of general peritonitis, because these could not be drained properly.

Mr. R. P. ROWLANDS said he believed in the muscle-splitting operation for acute appendicitis; it was more suitable, he thought, for acute cases than for chronic. Out of about 1,000 cases of acute appendicitis treated in this way he had only found two in which hernia had developed, and in both these cases there were other circumstances which favoured the development of hernia. He had kept a keen eye on his patients with a view to this occurrence. Statistics showed that the risk of pulmonary embolism was greatest between the ninth and the seventeenth day or thereabouts. To prevent pulmonary embolism he had adopted the plan of getting his patients up on the fifth day. They (or the nurses) did not like it, but he had found it answer, and whereas he used to get about one pulmonary embolism in his cases of appendicitis in a year, he had now not seen one for seven years.

Sir JOHN BLAND-SUTTON said that for every operation in surgery there seemed to be as many methods as there were men to use them. Each man had his own accustomed method, and had good results from it. With regard to the avoidance of hernia, he had come to the conclusion that the only way of avoiding hernia was to refuse to open the abdomen at all. Some years ago an enthusiastic student who wanted to become an abdominal surgeon asked him to suggest a theme for his thesis, and, as the student had means, he advised him to go to the Continent for a year and study the work of the best operators, and

then decide what would serve best for the purpose. He returned with his thesis already written; it was "On the different methods of closing abdominal wounds with a view to the avoidance of hernia." He found an extraordinary variety of methods, and the material used for sutures was as remarkable as the methods; it included catgut, silk, silkworm gut, horsehair, and iron, aluminium, silver, gold, and platinum wire. The speaker had still to find a man with a way of sewing up a wound so as to be quite certain that he would not get hernia. Probably the surgeon who had done the abdominal operation did not see the patient when the hernia had occurred; other men would see his failures, and he would see theirs. But if a man thought he had succeeded by any device in getting over the possibility of hernia he was living in a fool's paradise.

Dr. WHITELOCKE said that he had tried to see as many of his patients afterwards as he could, and he had not yet seen a hernia. He had not the slightest doubt that the frequency of hernia was appalling after operations for appendicitis, especially by the para-median incision. In all his abdominal operations he never swabbed out the pelvis; he put in a rubber tube of sufficient calibre, and left the respiratory movements to swab out; he inserted the tube right down to where the abscess was. Mr. Paterson's idea of opening the appendix abscess through the middle line of the abdomen appeared to him absolutely unsurgical. In reply to other questions, he said that it was only in well developed people that one got muscle fibres; he welcomed muscle fibres, such cases gave the best scar. He did not divide them with his scalpel, but separated them with his fingers. He was quite ready to try the fifth day for getting the patient up, but he could not recall a single case of his which had died from embolism.

## GYNAECOLOGICAL CASES AND SPECIMENS.

A MEETING of the North of England Obstetrical and Gynaecological Society was held at Manchester on January 16th, with the President, Mr. MILES H. PHILLIPS (Sheffield), in the chair. Mr. BLAIR BELL (Liverpool) exhibited a specimen of diverticulum of the bladder showing cystitis. The diverticulum was adherent to the right ovary, and was undoubtedly congenital. Mr. CARLTON OLDFIELD (Leeds) said he had often observed cases of diverticula of the bladder, but in no case had infection occurred. He asked if it were not possible in the present case that a portion of bladder wall had been pulled out by inflammatory tissue in the neighbourhood of the right uterine appendage. Mr. BLAIR BELL, in reply, did not think that the diverticulum had originated in the way suggested by Mr. Oldfield.

The PRESIDENT demonstrated a specimen of adenomyoma of the recto-vaginal septum which had caused a constant coffee-coloured vaginal discharge for several months in a multipara aged 45 years. A very tender nodular cystic growth occupied the posterior fornix and presented a small area of papillary growth; no connexion with the cervical mucosa could be demonstrated. He had operated on more than twenty of these cases, and in the majority had found inflammatory disease of the uterine appendages; he expressed the opinion that these growths were of inflammatory origin. Dr. LEITH MURRAY (Liverpool) recalled a case of adenomyoma presenting unusual features, related to the Society by the late Dr. Wallace in 1914.

A hysterectomy with removal of one ovary was carried out in 1908, but a complete removal of the infiltrating growth was not possible. Nine months later a regular monthly haemorrhage occurred, similar in all respects to her previous menstrual periods, and persisted for some years. By 1914 the growth was filling the pelvis and causing chronic intestinal obstruction. Dr. Leith Murray performed a colostomy with marked benefit, and at the same time a search was made for the remaining ovary with the intention of removing it, and of inducing the menopause, in the hope that the periodic haemorrhage indicated a Müllerian origin of the tumour mass, and that the growth might react favourably to such a step. Unfortunately, as the result of excessive infiltration of the broad ligaments, the ovary could not be localized. The patient lived till the latter end of 1918, and was in fairly good health and able to walk about until two or three months before her death.

Dr. D. DOUGAL (Manchester) described two cases in which he had performed Caesarean section for dystocia, due to (1) uterus bicornis unicollis, and (2) ventrifixation, or adherent myomectomy scar.

In the first case the non-pregnant horn of the double uterus lay within the pelvic brim, and caused obstruction, much in the same way as a fibroid situated in the lower part of the uterus.

The second patient had a myomectomy performed four years previously. The anterior uterine wall was firmly adherent to the parietes, but whether this was accidental or due to a fixation operation could not be ascertained. The posterior uterine wall had become enormously hypertrophied, and had pulled the cervix upwards and backwards to the level of the sacral promontory. Owing to the fixation the Caesarean incision had to be made through the posterior uterine wall, and a few days after operation a coil of small intestine lying in the pouch of Douglas became adherent to it, and caused acute intestinal obstruction. This was remedied at a second operation, and the patient then made a good recovery.

Dr. W. W. KING (Sheffield) showed microscopic sections of a spindle-celled sarcoma which appeared at the lower end of a colporrhaphy wound within one month of operation. The first nodule, the size of a bean, was removed, but in ten days' time the growth had recurred, and was then the size of a large pea. After treatment with Coley's fluid the growth disappeared to the naked eye, and a piece removed two months after the first appearance of the tumour showed no sign of sarcoma. The PRESIDENT thought the appearance of the section very suggestive of granulation tissue. Dr. DONALD thought that diagnosis by microscopic examination in cases of sarcoma was very difficult, and apt to be misleading. The clinical picture in this case did not seem to be altogether in favour of sarcoma. Dr. KING, in reply, thought the rate of growth too rapid for granulation tissue. He would keep the case under observation and report further in six months' time.

Mr. CARLTON OLDFIELD (Leeds) described a case of hydatid mole with bilateral ovarian cysts and toxaemia.

The patient, a multipara aged 36, was three and a half months pregnant when she first came under observation. Her husband had contracted syphilis a year previously, and she herself had a positive Wassermann reaction. Severe toxaemia with albuminuria developed suddenly at this time. The uterus was retroflexed and the size of a three and a half months pregnancy. Seven days later the uterus was much larger and reached the costal margin. Abdominal pain and tenderness and marked tachycardia were present, and her general condition was grave. There was no external haemorrhage, and the cervix was closed. Under an anaesthetic the uterus was emptied and the contents found to be a hydatid mole. There was practically no haemorrhage during the operation. During the pelvic examination at the time of operation bilateral ovarian cysts were discovered, the left being apparently the size of two fists. In three days' time the patient was very much better, and within three weeks was practically well. Three months after the commencement of the illness her general health was normal, and the ovarian cysts, which had been noticeably decreasing in size since the operation, had entirely disappeared.

Dr. FOTHERGILL had met with a case of hydatid mole in which severe symptoms of toxaemia were present. He had found it necessary to remove the uterus in this case, but toxaemic symptoms persisted, and caused her death two months later.

The PRESIDENT related a case where a large cervical fibroid caused severe haemorrhage ten years after the climacteric.

The patient was a spinster aged 57 years, and had a sudden profuse haemorrhage which came on without warning, and was only controlled by packing the vagina. A pelvic tumour had been known to exist for years, but had recently caused no discomfort. Hysterectomy was performed; the uterus was atrophied, but the cervix was lengthened to over six inches, and extremely thinned by a large cervical fibroid. Under the cervical mucous membrane covering the lower pole of the tumour were many large veins, and it was considered that rupture of one of these had led to the profuse bleeding.

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MR. MICHAILO GAVRILOVITCH, Envoy of the Kingdom of Serbs, Croats, and Slovenes, has become the President of the Serbian Red Cross Society in Great Britain.

A CASE was reported to a recent meeting of the Society of Medical Sciences of Lyons in which M. Patel had treated right facial paralysis, due to mastoiditis and caries, by operation. The patient was inconvenienced by the inability to close the eye, its prominence, and constant watering. The operation consisted in section of the right sympathetic and excision of the superior cervical ganglion. It was successful; the palpebral fissure was diminished and the globe retreated into the orbit. At the same time contraction of the pupil on the right side was observed, but the reactions to light and accommodation were retained.

# Reviews.

## THE GROUNDWORK OF SURGERY.

IN his *Groundwork of Surgery*[1] Mr. ARTHUR COOKE, Surgeon to Addenbrooke's Hospital, Cambridge, and University Teacher in Surgery, describes surgical diseases, their pathology and treatment, in the simplest way. A general wide idea of the subject is obtained, to which detailed work and experience in the wards can soon be added. The book is systematically arranged; in seven chapters it deals with infections; these are followed by others on injuries and shock, on deformities, on new growths, and later by an excellent chapter on prophylaxis and preventive treatment. Finally there is a chapter on the time factor in surgical treatment, in which the causes that render early operation so necessary in certain classes of cases are set out, and it is judiciously observed that the medical man can only insist upon early operation if he can arrive at his diagnosis with confidence.

Mr. Cooke says that his book is designed to give the student on beginning clinical work an elementary groundwork of knowledge as to common lesions and their causes; and it is, we think, one of the best books that has yet been written for the third-year student. It will save him from the bewilderment which many a student experiences when he begins to attend in the wards of his hospital, and will provide him with the main general facts of his subject.

## FOOD POISONING AND FOOD INFECTIONS.

DISEASES due to food, though their existence is well recognized, are probably more frequent than is generally known and are often wrongly interpreted; it is, indeed, not uncommon to find references to "ptomaine poisoning" in textbooks and in the evidence of medical men at inquests, although there is no longer any justification for the continued use of this popular phrase. It is therefore highly appropriate that an authoritative monograph on *Food Poisoning and Food Infections*[2] should have been contributed to the Cambridge Public Health Series by Dr. W. G. SAVAGE, who has devoted much time to this subject during the last fifteen years, and is the author of valuable reports and papers dealing with this aspect of public health administration.

Food poisoning is often classified according to the kind of food; but as the majority of cases are due to bacteria, and usually to bacteria of the Gaertner group, a division based on the vehicle of the infection, such as those due to ordinary meat, shellfish, sausages, milk, cheese, and ice-cream, is unsatisfactory, and the only scientific classification is one which depends on the infective agent. The three groups of bacterial food poisonings are those due to the Gaertner bacilli, to *B. botulinus*, and to other bacteria, of which putrefactive bacteria, *B. coli* and *B. proteus*, are usually considered to be the most important. Dr. Savage deals with these in detail, and shows that all, or almost all, the large and widespread outbreaks of bacterial food poisoning investigated by modern methods are due to the Gaertner group, that mass infection by bacteria not necessarily specific in nature is very doubtful as a factor in food poisoning, and that the poisonous effect of food rendered putrid by bacilli such as *B. coli* and *B. proteus*, though often assumed, still requires more rigid proof before it can be finally accepted. The description of the general clinical picture and other features of food poisoning of bacterial origin is derived from an analysis of about 112 outbreaks in this country investigated by the author, and, though mainly based on outbreaks due to the Gaertner group, may be taken as applicable to all outbreaks of bacterial origin except botulism. As the author has not been able to find any definite cases of botulism in this country, and it will be remembered that the recent outbreak of encephalitis lethargica was at first erroneously thought to be of this nature, he depends for his description mainly on the work of Van Ermengem and E. C. Dickson; the latter has within the last few weeks published investigations on the resistance of the spores of *B. botulinus* to the sterilizing agencies commonly employed in canning foods.

Chapters are devoted to food poisoning due to chemical poisons introduced unintentionally and as preservatives; to foods inherently poisonous, such as certain fish, mainly in the tropics, and ergot; to food idiosyncrasies, in which anaphylaxis is sketched; to the prevention of outbreaks of food poisoning, and to the methods of investigating the outbreaks. The work can be most cordially recommended as a clear and standard guide in this important subject.

## UROLOGICAL PRACTICE.

DR. V. C. PEDERSEN, in his *Textbook of Urology in Men, Women, and Children*,[3] has accumulated a vast amount of information. He states in his preface that this volume represents the experience of many years in urological departments in New York City, in private practice, and at St. Mark's Hospital, and that the actual writing of the text and the preparation of the illustrations represent four years of steady concentrated work. The result is a book which no one can read without being impressed with the industry, thoroughness, and knowledge of the author. That he has utilized his intimate knowledge of the subject to the best advantage is, however, not so certain. The language of the earlier chapters is often difficult to follow, and clearness of expression is too often lacking. It is only when he has left questions of theory and deals with matters of practice that the author appears to write with ease and with corresponding lucidity. The paragraphs and chapters on diagnosis and treatment are therefore the best. Here it is that the author's great store of clinical experience is given to the reader in a style that is simple and vastly more readable than that employed elsewhere. Fortunately diagnosis and treatment have been allotted a liberal allowance of the book.

Physical treatment—comprising electrotherapy, heliotherapy, and hydrotherapy—has been dealt with in far greater detail than is customary in textbooks of urology. The author, while admitting the limitations of electrotherapeutics in the treatment of genito-urinary diseases, considers that many of the failures reported are due to the use of second-rate apparatus in a semi-skilled manner. For this reason he supplies the reader with the information necessary for forming a clear judgement of the scope of electrotherapy in urinary diseases. Instruction is given as to the best form of machine, the type of application, its strength, duration, and frequency, and what class of case is most likely to benefit from its use. Hydrotherapy, though dealt with at less length, is given its due place amongst the therapeutic weapons available. It is, however, curious that in a work that is so comprehensive and that lays so much stress on physical remedies no mention should be made of the treatment of inflammatory conditions of the genito-urinary apparatus by passive congestion. We can find no mention of such an apparatus for the urethral canal, or of Bier's cups, or of the *rationale* of treatment by venous congestion.

While dealing with the bacteriology of the urethral canal, Dr. Pedersen emphasizes—unduly perhaps—the importance of distinguishing between infections due to the gonococcus and those caused by *Micrococcus catarrhalis*. In support of his statement that the latter organism is occasionally to be found in the human urethra, the author quotes the work of W. Ayres. Whether he will find much support for this statement on this side of the Atlantic is extremely doubtful. So competent an authority on the *Micrococcus catarrhalis* as Dr. Mervyn Gordon has categorically denied that it is ever found in the urethra. Still, whatever be the truth with regard to this difference of opinion, we cannot believe that the question of urethral discharge due to *Micrococcus catarrhalis* need seriously disturb the clinician.

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[1] *Groundwork of Surgery.* For First-year Students. By Arthur Cooke, M.A., M.B., B.Ch.Oxon., M.A.Cantab., F.R.C.S. Cambridge: W. Heffer and Sons, Limited. 1919. (Cr. 8vo, pp. viii + 183. 7s. 6d. net.)

[2] *Food Poisoning and Food Infections.* By William G. Savage, B.Sc., M.D., D.P.H. Cambridge Public Health Series. Edited by G. S. Graham-Smith, M.D., and J. E. Purvis, M.A. Cambridge: At the University Press. 1920. (Demy 8vo, pp. viii + 247. 15s. net.)

[3] *A Textbook of Urology in Men, Women, and Children, including Urinary and Sexual Infections, Urethroscopy, and Cystoscopy.* By V. C. Pedersen, A.M., M.D., F.A.C.S., Major Medical Corps, United States Army. London: H. Kimpton. 1919. (Med. 8vo, pp. 991; 762 figures, 13 coloured plates. 36s. net.)

## MEDICAL HISTORY.

OWING to the exigencies of the war the first volume of the *Annals of Medical History*,[4] begun in 1917, was not completed till 1919, and the first number of vol. ii is now before us. It begins with Dr. G. W. Corner's article on "The Anatomists in Search of the Soul": in the third century before Christ Erasistratus regarded the meninges and subsequently the cerebellum as the site of this intellectual faculty; Herophilus discovered the cerebral ventricles and gave them this function, and Strato of Lampsacus decided that the frontal sinuses were *pars princeps animae*. René Descartes's famous assumption at a much later date, that the pineal body is the seat of the soul, was promptly opposed by Bartholin and Wharton, two of the best contemporary anatomists; then followed Henry More's advocacy of the fourth ventricle. Dr. W. A. Jayne of Denver writes on "The Medical Gods of Ancient Iran," and Dr. J. Collins Warren of Boston contributes an illustrated account of "The Pulmotor of the Eighteenth Century," an apparatus designed for the purpose of inflation of the intestinal canal as a means of resuscitation of the apparently drowned. The history of laryngology and rhinology is traced by Dr. J. J. Walch, and Dr. Jonathan Wright supplies the first of two "Modern Commentaries on Hippocrates." The descriptive list of the incunabula in the library of the College of Physicians of Philadelphia occupies 34 pages. Sir William Osler has provided an attractive note on James Currie's Manuscript Journal, sold at Sotheby's on July 24th, 1918, and his review of Dr. Parkes Weber's *Aspects of Death*, a book dedicated to him, has a melancholy interest. Sir Norman Moore's *History of St. Bartholomew's Hospital* is pleasantly praised by Dr. C. Singer, and there are several short articles by the editor, who must be congratulated on this successful number.

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## SUSSEX SEVENTY YEARS AGO.

*Sussex in Bygone Days*,[5] first published in 1906 for private circulation only under the title of "The Reminiscences of Nathaniel Paine Blaker," has now been much expanded, and is a charming record of one who loves both the country and his profession. The author, who was born in 1835 on a Sussex farm, gives a vivid account of the rural life and customs which have largely gone beyond recall, such as the pattens, the ox teams, and the smugglers. The picture of these remote days and villages is tantalizingly peaceful; the amount of traffic was not more than two or three carts a day, and even a stranger on the road was so rare that people turned and stared after he had passed. There was little illness, and doctors were seldom seen in the village; when they were summoned for a grave case they always came on horseback, and dressed, as a rule, in summer, in dark swallow-tailed coats and brass buttons, light waistcoat and breeches, top boots and spurs, and large white tie and white frill.

In 1852 Mr. BLAKER was apprenticed as a resident pupil at the Sussex County Hospital, which had been opened in 1828; he gives a graphic if rather grim description of the surgery of those days when anaesthetics were little used and "laudible pus" was thought to prevent erysipelas. Three years later he went to Guy's, where he attended Addison's last course of lectures, and was fascinated by his manner and eloquence.

An empyema which he spat up cut short his London and nearly his earthly life. He, however, became house-surgeon and eventually senior consulting surgeon, to the Royal Sussex County Hospital, and his modest but wise meditations, especially those on the altered type of disease in relation to social customs, are the fruit of ripe experience. He suggests that it is the people rather than the diseases that have changed, and mentions the dictum of his old uncle: "Men are very much changed since I was a boy; they swear less and lie more." It is difficult not to quote more of the good things in a book which the reader is unlikely to put down until he is disappointed to find it is finished.

[4] *Annals of Medical History*. 1919. vol. ii, No. 1, Spring Number. Edited by Francis R. Packard, M.D. New York: Paul B. Hoeber. Yearly subscription, 6 dols.; single copy, 2 dols.

[5] *Sussex in Bygone Days*. Reminiscences of Nathaniel Paine Blaker, M.R.C.S. With a foreword by Habberton Lulham and an introductory letter by Sir Arthur Newsholme, K.C.B. Hove, Sussex: Combridges. 1919. (Fcap. 8vo, pp. xvi + 197; 4 illustrations. 5s. net.)

## NOTES ON BOOKS.

THE *Year Book of Pharmacy*[6] for 1919 contains some 300 pages of abstracts of papers dealing with pharmacy, materia medica, chemistry, new remedies and formulae, therapeutics, and kindred subjects; these are of great interest to pharmacologists and dispensers. The volume also contains a full report of the proceedings of the fifty-sixth annual meeting of the British Pharmaceutical Conference, held in London last summer, together with lists of members and indexes.

Mr. KINGZETT'S *Popular Chemical Dictionary*[7] is a brave attempt to solve a wellnigh impossible problem—namely, that of producing a dictionary explaining the nature and actions of important chemical substances or terms and physico-chemical processes in phrases intelligible to the layman. His endeavour has been to produce a popular educational work and general book of reference not only for chemists but also for the larger body of the public who take interest in chemical matters. The *Dictionary* covers a great deal of ground, and is full of facts, definitions, and explanations that should be of service to the general inquirer. Perhaps it would be possible in a later edition to insert a few such terms as "Benzine," "Benzole," "Margarine," "Erlenmeyer flask," that do not appear to be mentioned in the book. The text contains a number of serviceable illustrations, and certainly supplies a want that must often have been felt.

### MINOR SURGERY.

Some sixty years ago the first edition of Christopher Heath's *Minor Surgery and Bandaging*[8] saw the light. Since that time it has gone through no fewer than seventeen editions, the last recipient of the mantle of the prophet being Mr. GWYNNE WILLIAMS. The book has naturally undergone many changes, the latest being the omission of the chapter on war injuries—a happy sign of the times. Such advances in surgery as the war has occasioned have been incorporated in the text. A notable omission in this respect, however, is that the method of blood transfusion is not described. No one would look for a full and wide account of this life-saving measure in so small a work, but the citrate method might have been included, for it is the easiest and most generally applicable. There are minor faults in the book: the reader is given to understand that a rectal tube can be passed high into the bowel, whilst the general experience is that in reality it coils up in the rectal ampulla. Torsion of the spermatic cord—a much commoner incident than is generally supposed—is omitted from the section on acute scrotal swellings. Rupture of a hydrocele is also not mentioned. In spite of the painstaking work of Kanavel and others in America on the principles of the treatment of infections of the hand, the new doctrines are slow in making their way in this country. In few situations can such irreparable damage be done by the common faulty placing of the incisions. The section on the sterilization of the hands and patient's skin might be made fuller. Not enough stress is laid on the truism that it is possible to render skin sterile for the moment, but that it is impossible to keep it so. The book is, in spite of these things, very serviceable, its great defect is lack of personality. In that attribute the original work was rich and often, to our eyes, picturesque. "Some visiting surgeons," says Heath, "wish to do everything for themselves, and are very wroth if a house-surgeon has opened an abscess or tightened a bandage," and proceeds to warn his readers against the attempt to bring the practice of two or three individual surgeons to one uniform level, by which all possibility of comparison would be lost. As to the chaplain, he must not be interfered with, "the only difficulty at all likely to arise in this question is the tendency of some chaplains to prolong their visits to the wards to the inconvenience of the dressers and others." These times have gone and newer and better ones taken their place. The new edition will be found to reflect that change.

[6] *Year Book of Pharmacy*. London: J. and A. Churchill. 1919. (Demy 8vo, pp. 548. 12s 6d. to non-members.)

[7] *Popular Chemical Dictionary*. By C. T. Kingzett, F.I.C., F.C.S. London: Baillière, Tindall, and Cox. 1920. (Demy 8vo, pp. vi + 368; 78 figures. 15s. net.)

[8] *Minor Surgery and Bandaging* (Heath, Pollard, Davies). By Gwynne Williams, M.S., F.R.C.S. Seventeenth edition. London: J. and A. Churchill. 1920. (Cr. 8vo, pp. viii + 447; 235 figures. 10s. 6d. net.)

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THE late Mr. Henry R. Kinnear, formerly of Shanghai, has bequeathed £1,000 to the King Edward's Hospital Fund.

British Medical Journal.

SATURDAY, FEBRUARY 14TH, 1920.

## MINERS' NYSTAGMUS.

THE fact that a Home Office committee is now sitting for the revision of the tests for miners' safety lamps presents a convenient opportunity for reviewing the known facts of a disease which takes so heavy a toll of the vision of the coal-mining population. The chief feature of the disease is the rapid oscillation of the eyeballs. The symptom is to be seen in other conditions; it is, for instance, common in some defects of the eyes arising from congenital malformation or acquired disease, and occurs in certain diseases of the central nervous system and of the ears. The symptom is familiar to every practitioner of medicine, and the layman can gain for himself some knowledge of the phenomenon by noting the eyes of a fellow traveller on the railway who is engaged in watching the objects that fly past the carriage window, and if he himself indulges in the same practice he will appreciate some of the fatigue associated with the movement.

The recognition of miners' nystagmus is of comparatively recent date. Decondé, an ophthalmic surgeon of Liége, first drew attention to the disease in 1861. "Almost always," he said, "vision is seriously affected, and generally I have found it impaired. If the oscillation is very frequent sight is disturbed by it and the patient cannot continue at work." Since then much work has been given to elucidating the cause of the disease and the possibility of its prevention. During these investigations attention has revolved about certain aspects of the work of the coal miners. The cramping of his body and the movements of his eyes caused by the narrowness of his position and his attitude at work, the feebleness of the light in which he has to work, the badness and sometimes the poisonous badness of the atmosphere under ground, and the intensity of the physical work done; with these there are to be brought into relation all those other ills to which flesh is liable—defective eyes, ill health of mind or body, and intemperance.

At first attention centred upon the first two of the conditions and mainly on the first, so that the disease was held to be due to the strain on the muscles of the eyes caused by the effort to see in a constrained position and in a poor light. Bell Taylor of Nottingham considered the affection a pure myopathy and likened it to writers' cramp. For a time attention became almost wholly centred on this vice of posture, largely because of the energetic work of Simeon Snell of Sheffield. He concluded "that the disease only attacks men who are compelled through the nature of their work to direct the gaze upwards—that is, hewers and deputies," and further, "the position of the miner at his work is, therefore, the prime and essential cause of miner's nystagmus."

To Josiah Court of Staveley is due the credit of showing by a series of shrewd observations that posture was not the prime cause or even a leading cause of the disease; the prime cause, he maintained, was bad light. For once the great saying, "a prophet is not without honour save in his own country," has been honoured in the breach thereof, for we recorded recently that the King had bestowed on Dr. Court the honour of knighthood, and, further, his many writings addresses, and evidence have been gathered into a small volume recently published.[1] Sir Josiah Court observed in 1891 that nystagmus was common in the fiery mines where the safety lamps must be carried, but rare in safe mines where naked lights were used. "Out of 573 miners using naked lights, only 3 were affected with nystagmus who had *always used candles*. . . . But we find, in strong contrast to this, that out of 524 men using safety lamps, 164 miners were affected, or nearly one-third of them." And again, "There was not a single case of nystagmus in the torch-lamp pits amongst those men who had always used torch lamps." Finally, "The coal is got in the same manner, and holing and undercutting is done in the naked light mines just in the same way as in the collieries worked with safety lamps." Court's observations were confirmed next year by Romiée in Belgium, who recorded that there was an increase in the number of cases of nystagmus following the prescription of safety lamps, and later a very large reduction when a powerful electric lamp was used. Since that period there have been some oscillations of opinion, but through all a steady trend in favour of the dominant influence of bad light. Detailed work has been done on the actual conditions of the lighting in the mines, and particularly on the defects of the safety lamp, which gives a dim, diminishing, and remote light, in an unrelieved blackness broken with points of high reflecting power, in a small area bounded by the densest shadows. Attention has also been given to adjuvant factors, the greater liability of miners with defective vision as compared with emmetropes, the conducive influences of ill health and of intemperance, and the possibility of a form of chronic poisoning due to the absorption of coal gases. But that the dominant factor is the light, as pointed out by Court, has been convincingly established, so that after a discussion on "miners' nystagmus (neurosis)" at the Oxford Ophthalmological Congress in 1912 a resolution was passed unanimously declaring "that the chief factor in the disease was the deficient light present in the mine," and asking the Government to appoint a Departmental Committee to deal with the question. In the same year an admirable work of research and review was published by Dr. T. Lister Llewellyn, the first Tyndall Research student, whose work was done under the control of the Royal Society through a fund established by Mrs. Tyndall in accordance with the wish of Professor Tyndall, for the purpose of furthering scientific research in "improvements in mining and in the lot of the miners." Dr. Llewellyn's book,[2] and a later work by Dr. M. Stassen[3] of Liége will well repay study.

The solution of the riddle of causation does not conclude the matter. The disease may be prevented by more light, but how to get that light is a problem still unsettled. The orders published under the Coal Mines Act of 1911 show how much ingenuity has been expended in recent years in attempts to secure improved lamps, both flame and electric. The difficulty of the problem may perhaps be realized when we cite some of the tests to which a flame lamp is subjected before it can receive the official approval, without which it cannot be used in the mines. The first test is to drop the lamp from a height of 6 ft. on to a wooden floor five times in succession. In the second a weight of 5 lb. is dropped from a height of

[1] *Miners' Diseases.* Records of Researches by Dr. J. Court. Edited by W. Balley. *Sheffield Daily Telegraph.*
[2] *Miners' Nystagmus.* By T. Lister Llewellyn. London: The Colliery Guardian Company. 1912.
[3] *La fatigue de l'appareil visuel chez les ouvriers mineurs.* Par le Dr. M. Stassen. Liége: Vaillant-Carmanne. 1914-1919.

6 ft. on to the top of the lamp. In the third test the lamp is hung up and a weight of 10 lb. is attached to its lower part by a cord 6 ft. long; the weight is then dropped. This is done thrice; the least sign of yielding to the strain condemns the lamp.

Electric safety lamps give a much better light than the commoner oil lamps. They are more costly and heavier, but it is said that they are slightly more economical in maintenance. But the character of the source of illumination introduces a new complication; the specific intensity of the light is very high, and it emanates from a few millimetres of glowing wire a very small luminous spot compared with the large flame of a candle. The specific intensities of lights of equal candle power are inversely proportional to the area of the source of light, and the comfort to the eyes varies in the same sense. Every town dweller will have appreciated this since the introduction of the "half-watt" glow lamps. To diffuse the glow of the wire by frosted or opalescent glass is not practicable in miners' lamps, for these devices reduce the light from 30 to 60 per cent. Something can be done by placing the lamp between the points of two conical reflectors, as advocated by Llewellyn, for the illumination of the reflectors reduces the relative intensity of the source of light. The desideratum is a true glow lamp, a lamp the whole of whose bulb is glowing with light because the whole of its contents is luminous, like the mercury vapour lamp, only without its ghastly hue. There is room for research here, and we may hope that necessity may mother an invention, and that speedily.

## NON-SPECIFIC IMMUNITY.

THE work done by Petersen, Jobling, Cecil, and others in America, and by A. G. Auld and quite recently by A. E. Gow[1] in this country, on protein shock therapy, or the intravenous injection of foreign protein, either as such or in the form of a bacterial emulsion, has shown that the beneficial effect of vaccines is not specific only; thus injection of typhoid vaccine has been found to exert a curative influence on gonococcic arthritis. This rather revolutionary doctrine raises some further questions of interest: Can a vaccine exert a non-specific prophylactic effect and protect against infection by micro-organisms other than those from which it is made? How far does one infective disease protect against another?

The acquired immunity that comes with the advance of years is usually assumed to be mainly due, if not to some previous attack, to gradual immunization from repeated exposures to infection, which have not given rise to clinical manifestations sufficiently definite to attract notice. But whether abortive attacks or repeated autovaccination completely explains the gradual acquirement of immunity may be questioned, and in this connexion attention may be drawn to a suggestive paper by Victor C. Vaughan and G. T. Palmer[2] on non-specific immunity. Experience of epidemics in military camps in America clearly showed that when men were crowded together those from rural districts were much more susceptible to infections than those from crowded cities. Especially is this true of those infections transferred through the respiratory organs; seasoned soldiers were much more resistant to an infection new to the whole command than recently recruited men. The question therefore arose as to the existence of any scientific evidence in favour of the possibility of the development of a non-specific bacterial immunity or increased resistance to infection.

Years ago Vaughan and Wheeler found that all true proteins—bacterial, vegetable, and animal—can be split by chemical agents into poisonous and non-poisonous fractions, the poisonous being specific for each protein, whereas the non-poisonous is common to all proteins. Experimentally the late V. C. Vaughan, junior, demonstrated that the poisonous fraction, or "protein poison," establishes a non-specific tolerance for other proteins, and that no antibodies are formed, and further, that repeated introduction of the protein poison into the body produces a non-specific bacterial immunity which is of low grade and is not comparable with that attainable in toxic immunity. Vaughan and Palmer believe that men long resident in crowded cities and frequently inhaling particulate proteins (bacteria), whether pathogenic or non-pathogenic, acquire a non-specific immunity which helps them to withstand infection. This form of immunity, though it does not prevent infection with a newly imported virus, mitigates the effect—sometimes to so great an extent that no symptoms are obvious. In this manner a non-specific immunity may, it is suggested, enable a specific immunity to be developed against a virulent infection. Thus it makes a great deal of difference whether a susceptible recruit is at once exposed to the risk of infection of, say, measles, or whether contact is delayed until he has been for months in a crowded camp, inhaling daily more or less foreign protein from which, after absorption, protein poison is liberated and causes a non-specific immunity. The new recruit is thus transformed into a seasoned soldier, but in this transformation he does not acquire a specific immunity to measles, and if exposed becomes infected as readily as the recruit, though the effects are mitigated by his increased tolerance. A similar explanation is given for the well-known fact that seasoned soldiers bear influenza and pneumonia better than recruits.

It is interesting to note that the report by Walter Reed, E. O. Shakespeare, and V. C. Vaughan on enteric fever among the American troops during the Spanish-American war (1898) showed that, contrary to general belief, temporary gastro-intestinal disturbance, far from disposing to the onset of enteric fever, conferred a certain degree of immunity against subsequent infection with this disease. We may recall also that during the recent pandemic of influenza in this country some observers spoke of the existence of a "protective catarrh."

[1] A. E. Gow: *Quart. Journ. Med.*, Oxford, 1919-20, xiii, 82-104.
[2] V. C. Vaughan and G. T. Palmer: *The Military Surgeon*. Washington, D.C., 1920, xlvi, 1-8.

## CLINICAL TEACHING "ELEMENTS" AT WORK.

THE reconstruction of the teaching organization at St. Bartholomew's Hospital is making steady progress. The Medical Element is now complete; the director is Sir Archibald Garrod, K.C.M.G., the assistant director is Dr. F. R. Fraser, and the chief assistants are Dr. A. E. Gow and Dr. George Graham. Dr. Francis Fraser, who was recently consulting physician, at Cologne, to the Army of Occupation, took up his new duties at St. Bartholomew's on February 1st. He is a son of the late Sir Thomas Fraser, was educated at the Universities of Cambridge and Edinburgh, and has held the posts of assistant physician to the Presbyterian Hospital, New York, instructor in clinical medicine at the Columbia University, and assistant resident physician to the Rockefeller Institute for Medical Research. The organization of the Surgical Element has not proceeded quite so far. The director, Mr. G. E. Gask, C.M.G., D.S.O., is only now recovering from a recent illness, and the post of assistant director has just been

filled by the appointment of Mr. T. P. Dunhill, M.D., B.S.Melb., Surgeon to St. Vincent's Hospital, Melbourne, who will take up his duties at St. Bartholomew's in May next; during the war he acted as Consulting Surgeon to the British Forces in France. The chief assistants are Mr. R. Ogier Ward, D.S.O., M.C., and Mr. G. L. Keynes. Each of the two elements takes its share in the ordinary duties of the hospital, working as a single "firm," but provided with special facilities for observation and research. Each has clinical laboratories of its own for pathological investigation and routine work. The two teaching elements already formed are thus not isolated from the medical and surgical work of the hospital in general, but being so to speak "opposite numbers" there is specially free daily communication between them. We have announced certain appointments in connexion with the reconstruction of the pathological department, of which Professor F. W. Andrewes, F.R.S., remains the head. Dr. M. H. Gordon, C.M.G., is now bacteriologist and lecturer on bacteriology; Dr. B. H. Spilsbury is lecturer on morbid anatomy and histology, superintending all *post-mortem* examinations; and Dr. R. L. Mackenzie Wallis is chemical pathologist and lecturer on chemical pathology. Three senior demonstrators have been appointed as whole-time pathologists; there are in addition three demonstrators who are not whole-time pathologists, but will be eligible for posts as chief assistants in one or other of the clinical elements. It is proposed that all the chief assistants in future shall come through the pathological department, since one of their functions within the Elements will be to superintend the pathological work of the students. The object of these various changes is to make pathology more essentially a part of the clinical teaching.

## PROPOSED SANATORIUM FOR MERCHANT SEAMEN.

LORD INCHCAPE, immediately before his departure for India at the end of January, issued an appeal for funds with which to equip and endow a much needed sanatorium which is to be conducted by the Seamen's Hospital Society. The existing sanatoriums are of insufficient capacity to meet the general public demands made, and presently to be made, upon their resources; and, although the percentage of cases among seamen is not abnormal, the circumstances of the sailor's calling render it difficult for him to await his turn on the long list of those seeking admission. Thus, the temptation of the tuberculous sailor is to put to sea again with the disease still active; but the conditions of his life afloat tend to aggravate his own condition and to make him, at the same time, a special source of danger to his shipmates. It is felt, therefore, that in no way can the merchant seamen's courage and devotion to duty, so manifest during the war, be more usefully recognized than by providing for the immediate treatment of such as may be attacked by tuberculosis. An initial grant has been allocated by King George's Fund towards the purchase, for such uses, of Bramshott Place, Hampshire. The chosen site has been approved by the Ministry of Health and provides the essentials of good air, suitable soil, sufficient immediate accommodation and ample space for extension. For the establishment of the sanatorium a sum of £70,000 is needed; £1,000 will suffice to endow a bed. The P. and O. Company and its associates have promised £10,000 and Messrs. Furness, Withy and Company, £2,500. The Seamen's Hospital Society is a very great institution of which the country may be proud, and support of its many activities affords the most practical way of proving our gratitude to the sailors whose courage, skill, and endurance make the life of these islands possible. The Society was founded in 1821, and was incorporated by Act of Parliament passed in the third year of the sailor King, William IV. It at first had the *Dreadnought* hulk in the river, but a hospital was established ashore in 1870. It now possesses the Dreadnought Hospital at Greenwich, which has 345 beds, the Albert Dock Hospital, with 50 beds (at which until the recent move the London School of Tropical School Medicine was established), and the London Schools of Tropical Medicine and Tropical Hospital now opened at Endsleigh Gardens, where there are both beds for patients and well equipped laboratories for research and instruction. It also possesses the Angas Convalescent Home at Cudham, with 30 beds, and maintains dispensaries at the East and West India Docks and at Gravesend. A sanatorium will add one more necessary appliance to its equipment, and with no more competent body could its administration be placed. In Lord Inchcape's absence, communications on the subject may be addressed to Commander Hodgkinson, R.N., at 122, Leadenhall Street, London, E.C.3.

## FEDERATIONS OF BRAIN WORKERS.

IN the discussions on the better adjustment of the relations between employers and employed which have occupied so much space in the public press during the last year or so attention has been almost exclusively directed to the relations of industrial employers and manual workers. The interests of other classes of persons whose work is essential to industry have been almost ignored, although the Labour Party has declared its willingness to accept recruits from among brain workers. At the industrial conference summoned by the Prime Minister last April employers' associations and trade unions considered a proposal for a joint industrial council, and the Society of Technical Engineers at this conference moved an instruction to the council, when it should come into existence, to consider the position of unions composed exclusively of members of technical, management, and administrative grades, and to determine how such unions should be represented on the council. The industrial council has not yet come into existence, but meanwhile the Labour Research Department has been making inquiries into the position of professional classes in relation to the Labour movement, and at a meeting in London on February 7th a National Federation of Professional, Technical, Administrative, and Supervisory Workers was formed. The bodies represented at this conference included the Civil Servants Union, the Association of Local Government Board Officers, the National Union of Clerks, the National Federation of Law Clerks, the National Union of Journalists, representatives of scientific, technical, engineering, and chemical workers, together with the Actors' Association and the National Orchestral Association. A representative of the Labour Research Department said that it was not proposed that the Federation should affiliate with the Labour Party or the Trade Union Congress. Among the professions invited to join the new Federation medicine and the law are not included. It appears, however, that for some months past certain technical and scientific professional workers have been taking steps to form themselves into a confederation, and that representatives of these bodies and several others, after full discussion, have prepared a memorandum proposing that the various societies concerned should be formed into an industrial group, a financial group, a group for the public services, and a group for the other professions. Each group would form a federation, and the four would be combined into a confederation for which draft rules are being prepared. The General Secretary of the Society of Technical Engineers last week published a long letter on the subject in *The Times*, in the course of which he observed that the assumption that a salaried official must ally himself either with the employers or with the workpeople ought not to be accepted without further investigation. The position of medicine and the law are similar to each other and differ fundamentally from that of the intellectual workers represented by such bodies as the Society of Technical Engineers. The medical profession will be disposed to watch with sympathetic interest the

movement for a federation of scientific and technical workers; but until their plans are more fully known it will be premature to say that medicine should have any direct concern.

## THE AEROPLANE IN MEDICAL INVESTIGATION.

The enterprise of *The Times* and Lord Northcliffe in sending an aërial expedition to make the journey from Cairo to the Cape will serve a useful purpose by calling public attention to the possibilities of the aeroplane as a means of scientific investigation. Dr. Chalmers Mitchell, F.R.S., secretary of the Zoological Society, who is the scientific member of the party, will be chiefly concerned with the geological, geographical, and zoological observations, and it may be anticipated that this and future expeditions will make important contributions to these sciences. While fully recognizing this, we are disposed to think that the new method will be of particular value in medical investigation and administration. Probably medical investigation will be most efficiently advanced not by organizing flying laboratories, but by using flying machines to carry investigators to the spot. In the investigation of tropical diseases a stage always comes when laboratory inquiries in this country reach their limit, and it becomes necessary to test hypotheses by inquiry in the tropics. At the present time the organization of a scientific expedition is costly in time and money. It may take the investigator three or four months to get to the place, and as much to return. The actual investigation may only take a few weeks, but the investigator is absent for perhaps five or six months, during the greater part of which he is travelling and doing no scientific work. This involves a great waste of energy. The working life of a student of tropical medicine might be greatly lengthened if he could be transported to, say, the centre of Africa in three or four days instead of three or four months. The result of the expedition now in progress will, we trust, be to show that this hope can be realized. Several correspondents of our contemporary have called attention to the use of the aeroplane for the rapid transport of the doctor to give early treatment to a sick or injured man who could be brought by a relatively short journey to an aerodrome. A short time ago, with the aid of Professor Tuffier of Paris, we were able to publish an account of the work of this kind already being done by the French Army Medical Service in the hinterland of Algiers and Tangier and further into the Sahara itself. The arrangements are still in their infancy, but enough has been done to prove that a very valuable system can be established. Another use which it has been suggested might be made of an aeroplane service to the tropics is to bring home, or to a convenient port, colonial officers who are going on sick leave, or, indeed, ordinary leave. As it is they must spend months in slow travel before reaching a port or railhead, and the total cost in money and time to the colonial services must be very great. The matter is one which seems to deserve the attention of the Colonial Office.

## OPTICAL INSTRUMENTS.

WE have received a letter from Lieut.-Colonel W. D. Sutherland, M.D., I.M.S., stating that he has recently had an unsatisfactory experience with a hand spectroscope sent to him in Calcutta from this country. Many years ago he obtained from the firm of Carl Zeiss some hand spectroscopes on the Browning model, furnished with a wave-length scale which was most admirably adjusted and enabled the absorption bands seen in the spectrum of the object examined to be read off at once. These instruments having been stolen he obtained some of British manufacture, to which, he states, the old and unscientific, because purely arbitrary, scale was fixed. By dint of great pains he has managed to construct a wave-length curve to coincide with the old scale; but even so reference must be made to the curve at each observation, which causes loss of time. He asks whether it is not possible for British manufacturers of spectroscopes to take a leaf out of the book of Zeiss and make modern instruments. Colonel Sutherland seems to have been unfortunate as regards a certain wave-length scale, but in his condemnation of British makers of spectroscopes generally, on the strength of this, he goes too far. If any defect of principle is found in spectroscopes, or indeed in any other scientific instrument, complaint should be addressed to the British Scientific Research Association, 26, Russell Square, London, W.C.1, which exists to promote the development of scientific instrument manufacture, and is already doing good work. It is, of course, difficult to make substantial advances quickly or to change old ideas as regards the superiority of German goods over British; but as a matter of fact we believe the finest spectroscope work is produced by a London firm. It is no doubt true that in many directions British instrument makers have much leeway to make up, but they have taken the right course in establishing the association of which we have given the address. We may take this opportunity of adding that new facilities have recently been provided at the National Physical Laboratory, Teddington, in the Metrology Department, for the testing of volumetric scientific glassware. In a circular issued by the laboratory it is stated that the manufacture of such ware was an industry practically non-existent in this country before the war. It was largely developed during the war, but in order that its position may be consolidated it is supremely important that the accuracy of graduated apparatus made in this country should be thoroughly reliable. The National Physical Laboratory began the work of graduating volumetric glassware fifteen years ago. Its scope has now been widened; a new building, especially equipped for dealing with this class of work on a large scale, has just been completed at the laboratory. In it apparatus is tested; when the tests are required to ensure the highest accuracy for scientific purposes a Class A certificate is granted; a Class B certificate is issued for vessels adapted to ordinary commercial purposes. Full particulars are given in a pamphlet which can be obtained free on application to the Director, the National Physical Laboratory, Teddington, Middlesex. The laboratory has a special mark for Class A and Class B tests of volumetric apparatus, and the combination of this laboratory monogram and the date of the test are etched on all vessels which comply with the regulations. In special cases in which minute accuracy is necessary, corrections to be applied to the apparatus are supplied. The work long done by the laboratory in testing thermometers is well known, and we have no doubt that it will be ready to extend its operations in other directions in order to control the graduation of optical and other glass apparatus as the demand arises. The scientific control of the institution is exercised by the President and Council of the Royal Society, and its property is vested in the Imperial Trust for the Encouragement of Industry under the Privy Council.

## SALARIES OF MEDICAL OFFICERS OF LOCAL AUTHORITIES.

IN consequence of the increased cost of living and other abnormal conditions due to the war, many temporary increases in the salaries of medical officers to local authorities have been made in various parts of the country, and, as might be expected, the standard of increase has varied a great deal locally. As a rule, medical men have benefited under a claim put forward by one of the general associations of local government employees, or by an association representing the whole staff—preponderantly a lay staff—of an individual authority. In a circular dated January 12th, 1920, the Ministry of Health authorizes the payment by local authorities of salaries increased according to the scale

of Award No. 101 of the Civil Service Arbitration Board; the authorities are empowered also to adopt any further increase which the Arbitration Board may grant. The effect of Award No. 101, so far as it applies to medical men, is to increase the original salary by 30 per cent., with a further addition of £60, irrespective of the amount of salary; thus, in round numbers, salaries of £400 and £500 become respectively £580 and £710. The total bonus must not exceed £500 per annum. In the case of part-time medical officers the award has usually been on a *pro rata* basis. The position of resident officers, as defined in the circular, will be of interest to many medical men; recent arbitrations, it is said, have decided that in such cases the rate of increase should be one-half that payable in the case of non-resident appointments, but the actual amount of remuneration upon which the increase is thus made is to be calculated by adding to the figure representing the salary paid in cash the estimated value of all the emoluments.

## ACUTE LEUKAEMIA.

In an article on acute leukaemia,[1] extending over 250 large pages, Dr. O. Lindbom states that about 300 cases of the disease have been published, and adds 20 more observed by himself. He considers that all the white cells of the blood may be derived from the fetal mesenchymatous cell called lymphoidocyte by Pappenheim, myeloblast by Naegeli; as is notorious, the terminology employed in describing the embryological development of the blood and the various forms of blood cells is very complicated, and is rendered more difficult by the fact that different writers use the same term in different senses. It may be said that acute leukaemia is not in fact a rare disease; it may occur at any age, from birth to over 70; over two-thirds of the patients are males. The blood-picture is very variable; two main types are described—the lymphatic and the myeloid, but some cases show leucopenia throughout, others are frankly cases also described as chloroma, and it must be added that the blood-picture varies widely from week to week in many of the patients. Instances transitional between the above four main groups are often found; Dr. Lindbom concludes that the name "leukaemia" should be dropped owing to the heterogeneity of the cases included under it. The number of the blood-platelets is strikingly low in most cases of leukaemia; the white cells often show inclusions of various sorts—short rods and larger or smaller rounded masses, with different staining reactions, sometimes described as intracellular parasites; Dr. Lindbom interprets the rods as plasmatic structure, the masses as toxic-degenerative products identical with some of Doehle's cell-inclusions. Pathologically the cases often show haemorrhages into the skin and mucous membranes and into the various organs; indeed, many cases recorded as instances of the haemorrhagic diathesis have probably been cases of acute leukaemia; the bone marrow is red and diffluent, the spleen and often the lymphatic glands are much enlarged, and the thoracic and abdominal viscera exhibit leukaemic infiltration—particularly with tissue mast-cells that appear to differ from the mast-cells of the blood by giving no oxidase reaction by Schultze's original method. Histologically it is not possible always to classify cases of acute leukaemia as either myeloid or lymphatic, as transitional cases are not rare. Dr. Lindbom is unable to regard acute leukaemia as a malignant tumour of the blood, and considers Sternberg's lymphosarcomatosis merely one form of acute leukaemia—that is, he regards it much as he does chloroma. In many ways it resembles an acute infection, or septicaemia; but no specific virus has been found, and the disease is not transmissible experimentally. Yet, again, bacteria have sometimes been found in the blood, mostly secondary infections, and Dr. Lindbom finds it hard to believe that an infection of the blood is not the primary cause of acute leukaemia. Finally, no hard and fast line can be drawn between acute leukaemia and some cases of chronic leukaemia or some cases of septicaemia with leucopenia. Other examples of acute leukaemia that often escape correct diagnosis are instances of ulceration and necrosis in the mouth and tonsils with subcutaneous haemorrhages; the diagnosis of purpura often made would be corrected by examination of the blood. Dr. Lindbom confirms the view that the prognosis is absolutely bad in acute leukaemia; the duration was from nine days to three months in eighteen of his cases, averaging six weeks, and in the other two an acute leukaemia was the terminal event of a chronic myeloid leukaemia. The treatment is, at present, purely symptomatic. Numerous references to the literature are given, and there is a coloured plate showing various forms of cell-inclusions in leucocytes.

[1] *Svenska Läkaresällskapets Handlingar*, Stockholm, 1919, xlv, 83.

## A HYPOTHESIS AS TO THE ORGANIC BASIS OF FUNCTIONAL NERVOUS DISEASE.

In 1917 Dr. D. W. Carmalt Jones,[2] recently appointed Professor of Medicine in the University of Otago, New Zealand, wrote, while in charge of the medical division of No. 4 Stationary Hospital in France and unable to see current or standard medical literature, a paper based on the analysis of 1,300 acute or chronic cases of war neurasthenia, which is attractive both for its independence and its personal touches. In this "plain clinical study made by a general physician, with sufficient experience in disease of the nervous system to be able to make an accurate diagnosis between organic and functional conditions" of the nervous system, war neurasthenia is described as a physical disorder with symptoms affecting most of the chief systems, and the opinion is expressed that the emphasis usually laid on the psychical side of war neurasthenia sometimes entails neglect of the physical. We do not propose to follow Professor Carmalt Jones's analysis of the cases, but it may be of interest, in connexion with the experimental work of W. B. Cannon, Crile and others, and Laignel-Lavastine's recent monograph on "The Internal Secretions and the Nervous System," to refer to the hypothesis as to the organic basis of functional disorder which he very modestly puts forward. In considering the difference between a man's nervous system before and after he has developed neurasthenia, and assuming the absence of any gross change, such as punctate cerebral haemorrhages, the only physiological fact bearing on the subject that struck him was the presence in the blood of an animal under the influence of fear of an excess of sugar destined to supply the muscles with energy, and ascribed to increased secretion of adrenalin under the stimulation of the sympathetic. The same number of *Brain*, it may be pointed out, contains an elaborate paper by Kooy on "Hyperglycaemia in Mental Disorders," and embodies the same thesis. Inspired by a conversation with Major Crile, though he does not wish to father him with responsibility, Professor Carmalt Jones argues that a soldier when exposed to danger has to suppress his instincts, though his ductless glands are stimulated to over-activity, and to act in accordance with discipline and reason; and that in war neurasthenia, the exhaustion, fatigue, loss of control, and visceral disturbance are due either to exhaustion of, or intoxication with, the products of the ductless glands which have been constantly stimulated but whose products have not been properly metabolized by the actions they were intended to facilitate. In support of the thesis that the symptoms of war neurasthenia which are described in his paper, such as dilated pupils, sweating and salivation, tachycardia, the frequency of both constipation and diarrhoea, and the remarkable variations between polyuria and suppression, are referable to either over-stimulation or exhaustion of the ductless glands, especially the adrenals, appeal is made to Starling's statement that the injection of adrenalin arouses every activity normally excited by stimulation of the

[2] *Brain*, London, 1919, xlii, 171-213.

sympathetic, namely, vaso-constriction, dilatation of the pupils, increased secretion of sweat and saliva, rapid pulse, vaso-constriction of the kidneys and intestine, vaso-dilatation of the same, inhibition of the intestines, contraction of the ileo-colic sphincter, and inhibition of the bladder.

### THE FIRST SUPERINTENDENT OF THE JOHNS HOPKINS HOSPITAL.

FROM August, 1889, when the Johns Hopkins Hospital opened with that brilliant quartette of teachers—Sir William Osler, Dr. W. H. Welch, Dr. W. S. Halstead, and Dr. Howard A. Kelly—none of whom were more than forty years of age, until May, 1911, Dr. H. M. Hurd was responsible for the organization and smooth running of this model institution. He was born in 1843, and when called to Johns Hopkins had for eleven years been engaged in organizing and superintending the Eastern Michigan Asylum, which had become one of the most progressive in the country. While busy with the initial organization of the Johns Hopkins Hospital, he helped to found the *Hospital Reports* and the *Monthly Bulletin*. He edited both of these periodicals, which became extremely well known among all English-speaking physicians and surgeons. It is therefore most appropriate that the December issue of the *Bulletin*[1] should be entirely devoted to an account of his numerous activities and striking characteristics, from the kindly pen of Dr. T. S. Cullen, who so recently contributed an appreciation of his former chief, Professor Howard A. Kelly.[2] Like other biographers in the past, he finds his admiration is much increased by the necessary investigations for his tribute; Dr. Hurd always appeared to be an indefatigable worker, but it is only now that the tremendous amount he had accomplished and his share in the phenomenal success of the hospital have been clear. In addition to being the best known hospital superintendent in the United States, he was and still is an active writer, mainly on psychiatry, hospital management, medical education, the education of nurses, and on medical history. When, at the age of 68, he resigned the superintendentship he became Secretary of the Board of Trustees of the hospital, and is now engaged in writing the history of the hospital. The tribute contains a series of photographs from the age of 6 years, which were obtained surreptitiously, and therefore will surprise no one more than Dr. Hurd himself, and a bibliography of his 131 publications. The Henry M. Hurd Library, built by his friend George K. McGaw, will keep the memory of the hospital's first superintendent for ever green.

### BLIND MASSEURS.

AN Association of Certificated Blind Masseurs was registered last summer, and licensed under the Board of Trade. Its objects are to promote the welfare and protect and advance the interests of all certificated and qualified masseurs and masseuses who are too blind to perform work for which eyesight is essential; to assist and secure the recognition and status of such blind masseurs in their work; to provide for them any assistance or advantage calculated to help them to work on terms of equality with sighted masseurs; to promote co-operation in all matters relating to massage and physical culture between the blind and sighted persons; and to advocate and extend the general employment of massage and other physical methods or exercises. To be eligible for membership of the association, a blind masseur must hold the certificate of the Incorporated Society of Trained Masseuses, or a certificate by the late Dr. Fletcher Little, or such other certificate as may be prescribed by the Executive Council. The President is Sir Arthur Pearson, Bt., G.B.E., and amongst the Vice-Presidents are Sir Alfred Fripp, K.C.V.O., Sir Robert Jones, K.B.E., Sir Alfred Pearce Gould, K.C.V.O., Sir B. Bruce-Porter, K.B.E., Dr. Risien Russell, and Major W. H. Broad. The office of the association is at 224–6–8 Great Portland Street, London, W., where application for masseurs may be made to the Secretary.

[1] *Bull. Johns Hopkins Hosp.*, Baltimore, 1919, xxx, 341–372.
[2] BRITISH MEDICAL JOURNAL, November 29th, 1919, p. 719.

### INFLUENZA.

THE number of deaths from influenza last week in the ninety-six great towns of England and Wales was 98; of these 20 occurred in London. The London figure is lower than that several times recorded during the past four months, but the figure for the great towns as a whole is rather larger than any so far recorded this winter. The numbers of deaths from influenza, given in the weekly returns of the Registrar-General for the ninety-six great towns from October 18th, 1919, to February 7th, 1920, are as follows: 57, 71, 71, 56, 74, 79, 63, 77, 81, 64, 43, 52, 73, 62, 85, 66, 98. Influenza of a relatively mild type with low mortality seems to be spreading through the United States of America. We learn from the *Journal of the American Medical Association* that in Chicago, for example, a thousand new cases a day were being reported about a fortnight ago. Up to January 20th, 4,059 cases had occurred in that city, with 33 deaths; and 891 cases of pneumonia, with 159 deaths. The hospitals were so overcrowded that all operations save those of emergency had to be put off. The Health Commissioner of Illinois has appointed a commission of pathologists to act with the Department of Health in this emergency. The members are Drs. Hektoen, Zeit, Wilson, Kendall, Davis, Jordan, Evans, and Drake.

### DINNER TO SIR GEORGE MAKINS.

IT is proposed to give a complimentary dinner to Sir G. H. Makins, G.C.M.G., P.R.C.S., some time in May of this year. Sir Cuthbert Wallace will be in the chair. St. Thomas's men, or any medical officers associated with Sir George Makins in the British Expeditionary Force, who would like to be present are asked to communicate with Mr. C. Max Page, 134, Harley Street, W.1. Final arrangements can then be made, of which due notice will be given.

WE regret to learn of the death, at Ottawa, of Sir James Alexander Grant, K.C.M.G., M.D., F.R.C.P.Lond., formerly President of the Medical Council of Ontario, and one of the small number of honorary members of the British Medical Association.

## Medical Notes in Parliament.

### King's Speech.

IN the early part of the speech delivered from the throne when the King opened Parliament in state on February 10th it was stated that in order to secure the full blessings of peace and prosperity to Europe it was essential that not only peace but normal conditions of economic life should be restored in Eastern Europe and in Russia. So long as these vast regions withhold their full contribution to the stock of commodities available for general consumption, the cost of living can hardly be reduced nor general prosperity restored to the world. The belief was expressed that this country and the empire were making rapid strides towards stability and prosperity; though the price of foodstuffs and other necessary commodities was causing anxiety to all the peoples, the prices in these islands were appreciably lower than they were elsewhere. The legislation foreshadowed in the speech in addition to finance includes measures for Ireland, for the coal industry, and for agriculture. It was also stated that bills would be introduced for peace time regulation of the sale and supply of alcoholic liquor, for the after-war organization of the regular and territorial armies and the navigation of the air, for the extension of insurance against unemployment hitherto confined to a few, for the regulation of hours of employment and the establishment of a minimum rate of wage, and for the necessary amendment of the Insurance Acts.

# New South Wales.

### ROLL OF HONOUR, UNIVERSITY OF SYDNEY.

APPROXIMATELY some 1,800 graduates and undergraduates of the University of Sydney enlisted in the Great War. Of this number some 204 made the supreme sacrifice, and their names have been inscribed on an honour roll which was recently unveiled by the Chancellor. The memorial has been placed in the corridor of the Fisher Library, but the main part of the ceremony of unveiling took place in the Great Hall of the University. The Chancellor, Vice-Chancellor, and members of the Senate occupied the daïs. After the Registrar and Warden had read out the names of the fallen the organist played Chopin's Funeral March, the audience remaining standing. In the course of an eloquent address the Chancellor said:

To all those gallant men we do homage. To the sons of this University who fell we specially dedicate this ceremony. Those whom we would have gladly welcomed back to their places have reached a loftier place in our associations. The fallen have given all that men can give. The lustre of their renown would never be dimmed. They would remain glorious for ever.

Professor J. T. Wilson, F.R.S., Chairman of the Professorial Board, in the course of his address, said:

It is to you, young men, to whom the duty of developing that heritage rests. Do not delude yourselves with the idea that danger does not threaten us. What has been won by almost superhuman sacrifice can only be retained by the exercise of the spirit which won it.

Mr. Schofield, President of the Undergraduates' Association and himself a returned soldier, added:

The undergraduates of the University are determined that the memorial to those who have fallen shall be in the shape of a magnificent university—one of the greatest in the world. This Sydney University of ours is worth fighting for. We realize what these gallant men have done for us when they laid down their lives for us.

The National Anthem concluded the proceedings in the Great Hall, and afterwards Sir William Cullen, the Chancellor, performed the ceremony of unveiling the tablet in the Fisher Library.

On a subsequent afternoon the Chancellor and Senate of the University gave a garden party in honour of the returned university soldiers, of whom about 100 were present. The guests were allowed to inspect the various departments of the university, and special interest was taken in the roll of honour. An organ recital was given in the Great Hall, a one-act play called *The Wheel Heaver* was produced by the University Dramatic Society, and Professor David, F.R.S., Professor of Geology, gave a short lecture on the Western front and military geology, which was illustrated by lantern slides. Refreshments were served in the Cloisters and in the Great Hall.

The Senate of the University has announced that a prize of the value of £10 open to graduates and undergraduates and to returned officers and non-commissioned officers who have had experience of flying, will be given for the best essay or thesis on some phase of aeronautics. The special subject is "The commercial possibilities of aviation in Australia." Competitive papers must be sent to the Registrar by March 8th, 1920. The prize, which is to be known as the Geoffrey Sulman Memorial Prize for Aeronautics, represents the interest on the balance of pay due to Second Lieutenant Sulman at the time of his death while serving in the R.F.C.

### ALIEN ENEMY PRACTITIONERS.

At an extraordinary meeting of the New South Wales Branch of the British Medical Association, held recently, the following resolutions were proposed by Dr. Scot Skirving and seconded by Dr. F. Guy Griffiths:

1. That the New South Wales Branch of the British Medical Association protests against those medical practitioners who were interned during the war, as alien enemy subjects or otherwise dangerous to the community, being allowed to resume practice.
2. That the New South Wales Medical Board be asked to take steps for the removal from the *Medical Register* of (*a*) persons registered in virtue of German or Austrian qualifications not resident or practising in New South Wales, and (*b*) persons registered who have been interned as alien enemy subjects or otherwise.
3. That the Federal Government be asked to deport those medical practitioners who were interned during the war as being alien subjects or otherwise dangerous to the community.
4. That the Federal Government be advised that claims understood to have been made on behalf of one or more of the medical practitioners who were interned during the war that they possessed certain special knowledge essential to the wellbeing of the community which would be lost by their deportation are not based on any known facts, and that any special knowledge or alertness that they may have had is possessed, perhaps in greater degree, by many practitioners in different parts of the Commonwealth.

After a considerable amount of discussion in which the spirit of these resolutions was strongly supported, the motion was put and carried unanimously.

# England and Wales.

### NURSING ORGANIZATION IN WALES.

THE scheme drafted by the "Priory for Wales of the Order of St. John" to co-ordinate nursing organizations in Wales and Monmouthshire and to improve facilities for training in nursing seems for the present at least to have come to nothing. It was proposed to establish a Welsh National Committee for Nursing, containing representatives of various nursing associations in Wales, of the Welsh National Memorial Association, and other bodies, as well as of the medical profession and medical officers of health. The committee, it was proposed, should discuss and recommend general lines of policy, establish training hostels or other institutions, and take steps to provide an adequate midwifery service, which is considered to be a matter of urgency. A conference which was held last October was not well attended and appears to have arrived at no definite conclusions. Another conference was held in Cardiff on February 6th, and again the attendance was poor. It would appear that the nursing associations are hanging back and an explanation may, perhaps, be found in the resolution adopted at the conference last week, to the effect that consideration of the scheme should be deferred until the British Red Cross Society and the Order of St. John had been amalgamated and until the intention of the Ministry of Health as to the training of nurses is made known. It was announced some time ago that the British Red Cross Society and the Order of St. John in England had appointed a joint peace council, and had arranged that neither should make an independent appeal for funds, but act in this respect through the joint council. It was hoped that the formation of the joint council would mean in practice so close a combination in action as almost to amount to amalgamation.

### MANCHESTER ROYAL INFIRMARY.

The annual report of the Manchester Royal Infirmary states that early in October, 1914, it provided 250 beds for wounded soldiers. They were immediately occupied, and the accommodation was extended as necessity arose, until 520 out of a total of 884 were reserved for military cases. The reception of soldiers continued until the early summer of 1919, and the last of these patients were transferred to various military dispersal hospitals on August 21st, 1919. During this period 10,077 soldiers were admitted, 8,197 of whom were surgical cases, and 1,880 medical. The number of operations performed was 3,958. The personnel of the Manchester Royal Infirmary was largely drawn upon for war service. With very few exceptions its medical and surgical officers took commissions in the army or navy; the nursing staff provided senior officers for various hospitals as well as many individual nurses, whilst the lay staff joined up almost without exception. The board place on record their appreciation of the fact that notwithstanding the depleted staff, and the pressure caused by the influx of military patients, the work in connexion with the civilian patients was carried on with the same regularity as in times of peace. Special thanks are given to Mr. F. A. Southam, F.R.C.S., senior honorary consultant surgeon, who returned to duty at the request of the Board in 1914, and continued to serve the hospital until the present time, when the return of the honorary staff has made it no longer necessary to trespass on

his good-nature. Reference is made to the honours (K.B.E., C.B., C.M.G.) conferred on Colonel Sir William Thorburn, senior honorary surgeon. The infirmary, the report affirms, owes him a debt of gratitude for his invaluable services in connexion with the planning and erection of the institution on its present site. Note is also made of the honour of C.B.E. conferred on Miss M. E. Sparshott, who acted as principal matron, Territorial Force Nursing Service, East Lancashire, and organized and administered the nursing service of the 2nd Western General Hospital, comprising thirty-two branch hospitals, with a complement of 703 nurses. A gift of £4,000 by Sir James E. Jones of Rochdale to endow demonstrations to medical practitioners on diseases of the ear, in memory of his son, is noted with gratitude: as we have already announced, the first course of demonstrations began early this year. Under an arrangement with the Ministry of Pensions the Board will continue to receive pensioners; the number of beds set aside for this purpose is now 122. Altogether the board is responsible for 1,244 beds for various purposes, of which 623 are in the Royal Infirmary, 55 in the Central Branch, 136 in the Barnes Convalescent Home, and 430 in the Royal Lunatic Hospital and its branches.

### MANCHESTER MEDICAL SOCIETY.

Professor R. B. Wild, on February 4th, gave the presidential address to the Manchester Medical Society on "Some racial problems, social evils and modern crusades." The racial problems as to the falling birth rate and its accentuation by the war, eugenics, and the care of the feeble-minded, were briefly discussed. The effects of tuberculosis, cancer, gout and venereal diseases upon the race as opposed to their effects upon the individual, were considered. Finally, the prevalence of certain drug addictions (including alcohol, caffeine and nicotine), their causes and results as regards both the race and the individual, were compared and reviewed.

# Ireland.

### NATIONAL UNIVERSITY OF IRELAND ROLL OF HONOUR.

WE have received from the Registrar of the National University of Ireland a bound copy of the war list and roll of honour, giving the names of the past and present students and members of the staff who served during the war, arranged under the three constituent colleges of the university. Of the members of University College, Dublin, forty-three were killed in action or died on active service, and many received military distinctions; the war list includes students of the Medical School, Cecilia Street. Of the old students of University College, Cork, who served, twenty-five lost their lives. From University College, Galway, twelve lost their lives, and one more is entered as "wounded and missing." The university roll of honour contains a considerable number of names of distinguished naval and military officers.

### MEDICAL ATTENDANCE ON THE ROYAL IRISH CONSTABULARY.

Arising out of correspondence, which has extended over a considerable time, between the Irish Committee of the British Medical Association and the police authorities, in regard to remuneration for medical attendance on members of the force, the Deputy Inspector-General has informed the Irish Medical Secretary: "That His Majesty's Treasury have approved, from a date to be fixed shortly, of a recommendation made by the Irish Police Pay Committee relieving medical attendants from the duty of attending on the wives and children of the force, the present remuneration, however, being continued." The capitation fee allowed for medical attendance (including the supply of drugs and appliances) on members of the Royal Irish Constabulary is £1 4s. per annum.

### POSTAL ARRANGEMENTS IN DUBLIN.

Much objection is taken by business and professional men to the new rules of the Post Office with regard to the posting and delivery of letters in the city of Dublin. Morning letters are held over three or four hours before delivery, and the outgoing mail is collected four hours before sailing from Kingstown. The midnight collection of letters has been abolished, with the result that Dublin doctors when settling urgent appointments with their patients, even in parts of the county in the neighbourhood of Dublin, must now use the telegraph in making arrangements which were hitherto as expeditiously and more satisfactorily carried on through the ordinary post. Sir L. W. Ormsby, M.D., in a letter to the press states that last week the morning deliveries were apparently not made until 9 a.m., and the English post was not delivered until the afternoon, whereas formerly the Irish letters were delivered at 8 a.m. and the English letters at 9 a.m.

### POOR LAW MEDICAL OFFICERS' SALARIES.

The following improved scales of salaries have been made recently by boards of guardians:

Cashel (co. Tipperary). An initial salary of £300, reaching a maximal salary of £400 by triennial increments of £10.

Birr (King's County). An initial salary of £250, reaching a maximal salary of £350 by annual increments of £7 10s.

Ennis (co. Clare). An initial salary of £250, with annual increments until a maximal salary of £350 is attained. The scales in Birr and Ennis are retrospectively applied.

The old scales varied from £150 to £200 per annum. Dr. Hennessy, Irish Medical Secretary, attended the meetings of these three boards and stated the case of the Poor Law medical officers.

# Scotland.

### CLINICAL MEETING OF THE EDINBURGH BRANCH.

THE winter clinical meeting of the Edinburgh Branch of the British Medical Association will be held in the Royal Infirmary, on Friday, February 27th. The Museum will be open from 11 am. Arrangements will be made for holding special clinics during the forenoon. The clinical meeting will be held at 3.15 p.m. At 5 p.m. Dr. Alexander Blackhall-Morison, London, will deliver a lecture on "The Passive Mechanical Factor in Heart Disease: Its Influence and Management." All members of the profession are cordially invited. Those who have patients or specimens to show are requested to communicate at once with Dr. John Eason. A dinner will take place at 6 30 p.m. in the hall of the Royal College of Physicians (morning dress; dinner ticket, 10s. 6d.). Members intending to be present are requested to give notice before February 23rd to one of the honorary secretaries, Dr. John Stevens, 78, Polwarth Terrace, or Dr. John Eason, 35, Melville Street.

### EDINBURGH ROYAL INFIRMARY.

The report of the managers of the Royal Infirmary, Edinburgh, for the year ending September 30th, 1919, shows that the total number of patients treated was 12,550, a slight increase on the previous year. The average daily number of patients was 888. A monthly return for eight months showed that there were during that time an average of 606 persons awaiting admission to the wards. The ordinary expenditure had increased in nearly every direction. The cost of each occupied bed was £115 9s. 8d., as against £95 8s. 8d. in 1918, and the total ordinary expenditure was £102,549, an increase of no less than £15,418 over that in 1918. Consequently, the financial position of the infirmary was unsatisfactory and an appeal was made for increased contributions. The daily average number of nurses on duty was 306; 81 nurses and 21 probationers had left and 4 probationers had died. The number of applicants for admission to the training schools for nurses was 612. The daily average number of patients in the Convalescent House, Murrayfield, was 63. The managers expressed their satisfaction in being able to report that all the members of the honorary staff had now returned to duty, with the deeply regretted exception of Dr. Denis Cotterill, who had died in France. The Royal Infirmary could justly claim to have provided its full share of medical officers for all the areas in which the British armies operated, and although this involved a heavy strain on the older members of the staff who remained, they most cheerfully and successfully met the

extra responsibilities and duties thrown upon them. At the annual meeting on February 5th the necessity for providing a new nurses' home was insisted upon, and it was admitted that the infirmary was not in this respect abreast of the times, the number of nurses being inadequate for modern requirements and the hours they worked far too long. If the infirmary came into line with other great hospitals in the country and reduced the hours of each nurse to fifty-four a week one hundred more nurses would be needed. The annual report was referred to a special committee, which will give particular attention to the financial position.

# Correspondence.

## INFLUENZA AND EPIDEMIOLOGY.

SIR,—The late Mr. C. B. Lockwood, a sound if an incisive teacher, was wont to ask the student who spoke to him of a "gouty d athesis," or of any other ill-defined etiological factor, "Can you show it to me on a plate?" The question may not have been at all times logically justified, but it was extraordinarily helpful as an educational corrective. In your interesting editorial upon the epidemiology of influenza you say, "The great factors governing what we may term *a pandemic respiratory constitution* (the italics are mine) may be similar even when the bacteriological *verae causae* are different." Now Dr. Crookshank, whose plea for a proper consideration of first principles you support, pleads also for clearness of thought when formulating any concept to which disease prevalences may be referred. With both of these considerations few, if any, of your readers are likely to disagree; but it will come as a disappointment to many to find that "a pandemic respiratory constitution" is an accredited concept upon the basis so carefully laid down. You administer a gentle rebuke to the great Sydenham—living before the era of microbiology—for his reference to "skiey influences" in the causation of epidemics; but a "respiratory constitution," so it seems to me, leaves us still very much in the clouds.

If epidemiologists wish to justify and to establish their science, will they not reward our patience, just once, by showing us something "on a plate"?—I am, etc.,

THOMAS HORDER.

London, W., Feb. 8th.

## TREATMENT OF MALARIA.

SIR,—There are one or two points in Dr. Robertson's letter in your issue of February 7th upon which I should like to make a few remarks.

1. He recommends a dose of aspirin as a routine measure. This is, I think, quite unnecessary in by far the great majority of cases, and I am not sure that some, at least, of the cases of disordered action of the heart which we frequently see in connexion with malaria are not in part caused by the use of antipyretics of this nature. I do not want to labour the point, but it is worth investigation.

2. He apparently considers that the arsenical compounds, such as galyl, are likely to succeed when quinine has failed. This is quite contrary to our experience at the malaria department of the 4th London General Hospital, where, under the guidance of Sir Ronald Ross, a large number of trials were made, and it was shown that the arsenical compounds had nothing to recommend them as substitutes for quinine.

3. I hope he is wrong when he states that "very few medical men who themselves have malaria take quinine for more than a few days after an attack." If that is so we are in the position of the preacher who told his congregation to "do as I say, not as I do." From a prolonged experience in Africa and India before the war, and in charge of malaria wards during the war, I am convinced that regular administration of quinine to the extent of about 10 grains daily, prolonged for a period of four to six months, is the only way to eradicate the infection, and I am one of Dr. Robertson's "few" medical men who have carried out the treatment on themselves, with, in my case, quite a satisfactory result.—I am, etc.,

W. A. MURRAY, O.B.E.,
M.B., D.T.M. and H.,
Late M.O. i/c Malaria Wards, 4th London General Hospital.

February 7th.

## TICKS AND RELAPSING FEVER.

SIR,—Dr. Nicholson's paper on the above subject in the JOURNAL of December 20th, 1919, has led to interesting communications from Captain Dunlop and Colonel Mackenzie. These appeared respectively in the numbers of the JOURNAL for January 24th and February 7th, 1920.

Captain Dunlop deals with the disease in Northern Persia and states that he has definitely proved that *Argas persicus* is the vector of its specific spirochaete. Although his observations are interesting and highly suggestive I fear they do not absolutely establish his claim, and further proof is required. Even if the ticks were harbouring spirochaetes derived from the men in the billet he describes, it remains to be proved that they infected healthy men. Again, there is always the possibility that the spirochaetes found in the ticks were fowl spirochaetes, *Sp. gallinarum*, which *Argas persicus* is known to transmit. The evidence furnished is merely of a circumstantial nature and experimental work is required before the rôle of the tick is definitely established.

It is well to recall that Dschunkowsky[1] in 1913 stated that, as a result of certain experiments, he believed that the Persian relapsing fever was transmitted by a species of Ornithodorus, either *O. tholozani* or *O. canestrinii*. Here also, however, the evidence was incomplete, though less so than that advanced by Dunlop. Colonel Mackenzie's note on the clinical differences between the Egyptian and Persian relapsing fevers is interesting, and it agrees with the observations of Boyd.[2] He believes that ticks are the transmitting agents in Palestine, but again absolute proof is wanting.

I may say that I think it is not impossible that *Argas persicus* is the carrier of the spirochaete of relapsing fever in Palestine, but I maintain that definite scientific proof that such is the case is still lacking, and I hope that the question may soon be decided, as the matter is one of very considerable importance.—I am, etc.,

ANDREW BALFOUR.

Wellcome Bureau of Scientific Research,
London, W., Feb. 9th.

SIR,—Though unable to express any opinion on the question of the transmission of relapsing fever in Palestine by ticks, I cannot agree that the characteristics observed by Lieut.-Colonel J. W. Mackenzie are sufficient to distinguish a type of relapsing fever carried by ticks from that carried by lice.

For three years from April, 1916, I was associated with the Egyptian Hospitals E.E.F.; for the first half of that period I was in charge of No. 3 Egyptian Stationary Hospital. In those hospitals thousands of cases of relapsing fever from among the Egyptian personnel attached to the E.E.F. were treated, and all the sick Turkish prisoners of war were passed through them on their way to Egypt.

The following facts seem to me to invalidate Lieut.-Colonel Mackenzie's proposition:

1. The occurrence of relapses so transient as to be represented on the temperature chart by a "spike" was quite common during the eighteen months before the advance into Palestine—that is, during a period in which it was certain that "bugs" were not the source of infection.

2. The number of cases showing that type of relapse did not increase after the advance into Palestine.

3. During all periods it was difficult to find spirochaetes in many blood films.

4. In all types of cases the relapses were very irregular.

At different periods of epidemics some clinical features—for example, the amount of rash, jaundice, etc.—seemed to vary, and it is possible that the character of the relapses varies in a similar manner, though such a phenomenon was not observed.

All the medical officers attached to the Turkish army whom I questioned on the subject stated that only a few cases of relapsing fever had occurred among the Turkish troops, and as also practically no cases were detected among the large numbers of prisoners taken, unless it was possible to trace very definitely the source of infection in

[1] Dschunkowsky, E.: Das Rückfallfieber in Persien, *Deut. med. Woch.*, 1913, February 27th, vol. xxxix, No. 9, pp. 419, 420.

[2] Boyd, F. D.: Experiences of a Consulting Physician on Duty on the Palestine Lines of Communication, *Edinburgh Medical Journal*, 1919, May, vol. xxii, No. 5, pp. 276–287.

Lieut.-Colonel Mackenzie's cases, I should incline to the opinion that it was derived from the Egyptians attached to the E.E.F., and not from the Turks.—I am, etc.,

W. W. TREVES, O.B.E.,
M.B., B.Ch., F.R.C.S.

London, W., Feb. 9th.

## FORGETTING: PSYCHOLOGICAL REPRESSION.

SIR,—In my first letter to the BRITISH MEDICAL JOURNAL of January 17th, I ventured to comment upon the interesting communication by Dr. Alfred Carver on the above-named subject in the previous number.

In that article he stated that forgetfulness was "nothing other than repression, and psychological analysis" (? psycho-analysis) "invariably revealed the fact that the patient's anxiety condition was directly attributable to it. This is due to dissociation and displacement of the affect"; also, "the more successful he is in repressing the memory of his unbearable experiences the more severe become his symptoms," and Dr. Carver advised that the necessary first step was the making conscious of the forgotten memory, a method of treatment that has frequently failed in the forms of psychosis met with in my experience, and I have been disappointed with it. The object of this special form of treatment is reasonable, and comes well within the scope of psycho-therapy, namely, that the patient may himself recognize the cause of his own failure and then readjust himself. I believe therefore that Dr. Carver overstates the value of his method, unwittingly of course, and I think that a compromise of opinion would be more correct—namely, that in the early stages rest and diversion are more effective, and in the later stages the revival may succeed, just as the cure of the "tics" in children is first to ignore—which is Sir William Hale-White's advice—and then to emphasize and persuade, which is Dr. Carver's. "Take no notice of his jerks and spasms at first, but have him in the looking-glass and demonstrate to him later."

It must be remembered that in Dr. Carver's treatment the proximate cause of the patient's failure is apparently in the unconscious mind and is "forgotten," and therefore *ex hypothesi* he is not aware of it, except in so far as it may be interpreted to him by his physician—a conclusion he may not accept, but for which he pays the penalty, and does not get rid of his "converted" illness; but the psycho-analyst scores in either instance. If the interpretation of the cause of the patient's illness is accepted, the psycho-analyst is right; if it is not accepted, he is equally right, for the patient is then informed that the thoughts revealed were in the unconscious mind and were "forgotten" by repression, and he could have no awareness of events in this region, and must therefore accept the conclusions offered to him. It is not surprising, therefore, that these conclusions or explanations are either often strange, uncertain, and fantastic, or that the patient often resents the irritating probing of his early life, and in consequence becomes irascible, which may be interpreted to be his "abreaction"! [I was informed by a leading psycho-analyst that the printer's error in connexion with the publication of a recent honours list was a wish-fulfilment on the printer's part that the recipients *should have received* higher promotion!]

Although the doctrines of Freud have been known to medical psychologists for a quarter of a century, there are still some who, like myself, are unable to assimilate its crude vocabulary, and who continue to feel a "resistance" to the Freudian theories. The statement commonly made that much of the mental and a good proportion of the physical disorders from which humanity suffers are due to a struggle and repression between conventional morality and the natural instincts and impulses needs more facts in its support to be convincing, and personally I believe that the psycho-neuroses are as frequently the result of some sudden failure or the fatigue of an overstrained nervous tissue as that they are psycho-genetic, and in regard to the latter much of the value of psychological analysis arises through "suggestion," which is able to overcome the native inhibition, here dignified into the endo-psychic censor. We all realize that suggestion plays a very considerable part in the relief of the milder neuro-psychoses; many patients are beguiled into recovery by the use of the faradic current; most cases of functional aphonia and dumbness, deafness, blindness, and hysterical monoplegias get quite well either with faradism or upon being reassured that there is a complete absence of organic disease—a psycho-therapy which imposes the stronger will upon the weaker through suggestion and persuasion.

In his second letter Dr. Carver does not add to the statements made in his first, but he limits himself practically to the treatment of hysteria, a group only of the more comprehensive class of the so-called war neuroses, which necessarily includes the psychoses, neuroses, and the group under review—the psycho-neuroses—and these must come under the Pensions Minister in their later or confirmed stages.

The correspondence on the subject has been valuable and deserves attention. Dr. Robert M. Riggall has apparently fallen into line with the modern treatment which tends to avoid suggestion and hypnotism in the later stages and to rely upon psychological analysis. As to the letters of Dr. Thomas Lumsden, I certainly endorse his treatment by psycho-therapy, and I am content to be bracketed with him (if he will permit this by Dr. Arthur F. Hurst), for he is noted for his great services and patriotism. I am further fortified in my belief that "suggestion" is the chief cause of the "lightning cures" which Dr. Carver regards with suspicion. One has only to journey to Holywell in North Wales to see sticks, crutches, splints and perambulators all discarded upon emerging from the intensely cold holy well, and one will there hear also of relapses. Dr. R. G. M. Laddell calls attention to what I venture to believe is the chief advantage of the method of psycho-analysis—namely, the great length of time devoted to each patient, which alone can afford a full and complete investigation into tendencies and temperaments. Dr. Cecil A. P. Osburn with his special experience of psychiatry feels as I do, that we should be in a position to give our patients the most effective help. Dr. Major Greenwood with much point suggests by means of an allegory that we desire to allay the consciences (why financial?) of our patients in so far as this bears upon bodily disorders, and that we should be permitted to do this without acrimony and personal reflections, but, as in other financial conundrums, the point arises as to how the ordinary civilian can best afford the cure, which is both expensive and tedious, and only applicable to the educated and the young.

The communication from Drs. C. H. L. Rixon and D. Matthews is a personal record of preparing the soldier to discuss his past experience by reviving repressed memories, and for this reason it deserves to be considered authoritatively. The employment by them of suggestion and re-education indicates the value of moral suasion of the most direct type, and although psychological analysis is not mentioned, it is clear that its practice is employed, though possibly not on Freudian lines. I have known one young girl certified as insane who repeatedly denied allegations of improper thoughts relating to her father, these having been put into her mind by psycho-analysis. In my first letter I pointed out that the "cathartic" method of first reviving and then "discussing" forgotten memories may be suitable in some cases, but the effect was the opposite with others, the latter constituting the class of confirmed psychosis, where an insight into their own condition was most difficult or impossible.

My protest is against being too pontifical and over-emphatic; to exalt the value of reviving forgotten memories by psychological analysis as the first and the only method of cure in the psycho-neuroses is to discard the experience of others, and to be misleading to those who are being helped. I believe there are two classes of these, one taken in the early stages, which will prove amenable to the valuable advice given by Sir William Hale-White, and the other the later which may yield best to Dr. Carver.

I believe that some of the mental unrest and the anxiety exhibited by the revival of spiritualism and the reappearance of the dead are due to the continuous probing of the mind for memories which were forgotten or were in the process of fading gradually away—Nature's method of restoration, which tends to save the sufferer from becoming the victim of permanent mental disorder, and so confirms the statement of Bergson that the human brain is first and chiefly the organ of forgetfulness, that is, of inhibition.—I am, etc.,

ROBERT ARMSTRONG-JONES.

London, W., Feb. 11th.

SIR,—I should like to criticize the letter by Sir Robert Armstrong-Jones. It appears to me that his statements succeed in minimizing or nullifying the beneficial effects of recovering the repressed memory of the "neurasthenic" only by missing the main point in the technique of psychotherapy, namely, "re-association." I do not think it would serve any useful purpose to discuss the first portion of the letter, and will confine myself to the question of the utility of the methods employed in dealing with cases of "forgetting" by modern methods.

In passing, however, I observe that the writer appears to confuse the part for the whole when he implies that the unconscious mind and the "endo-psychic censor" are one. Freud uses the latter term to define what he claims to be a definite psychological influence at work in the unconscious mind. It is not the unconscious mind itself, indeed it is not even the *élan vital*, etc., but merely a product resulting upon the acceptance of the existence of a primary driving force in the mind of man. It is to be hoped that the novice of the "younger school of psycho-neurologists" will avoid such confusion of terms in discussion or controversy relating to a new subject where accuracy of definition and observation are of paramount importance.

It is not the object of the psycho-therapeutist to cure merely by resuscitating painful memories which the patient by constant effort has at last succeeded, or partially succeeded, in driving into the unconscious. By so doing he would achieve nothing more than to bring the patient back to the very starting point from which the symptoms sprang. That is not enough—no cure can be fairly considered to have been brought about until a process of "re-association" has taken place in the mind of the sufferer. True this process may result spontaneously after analysis in the waking or hypnotic state (and in my opinion this state of affairs accounts for the type of case which clears up as the result of simple abreaction alone). But often it is essential for patient and physician to examine the newly broken ground and to pick out, as it were, the gold from the dross; this is the process of "re-association," and by it the patient is brought to realize the fact that, however painful his memories may be, the maximum portion of the pain has been caused through not knowing how to reconcile the pain-causing "conflict" with the rest of his mentality.

The aim of the psycho-therapeutist is as honest as that of the surgeon. His object is not to smother the malodorous wound with sweet-smelling medicaments, but radically to treat to a cure. It is not sufficient to provide the patient with a brand-new supply of "pleasant memories" to superimpose upon the old painful ones (how ineffectual such a method would be is recognized by most workers, I hope). Nor is it any better to provide a "complete rest" wherein introspection (the progenitor of morbid rationalization) is allowed to exercise a truly baneful influence. Such methods only make for the "fixation" of the symptoms, and render subsequent work along rational lines doubly difficult.

It is my experience that the patient does not leave the physician happy because his troubles have been "re-camouflaged" (hysterical symptoms, at any rate, are mere "camouflage" to begin with), but because he is now conscious with equanimity of the cause of his trouble, and is provided with practical means wherewith to combat the same, should the occasioning factor ever enter into his life again. The jilted lady need no longer waste much useful energy in expressing her emotions in symbolic hysteria. Realizing why her unhappy lot is what it is, she can now direct these introverted energies into channels leading to more altruistic results, namely, the benefit of humanity. Thus by "re-associating" is she enabled to "sublimate" her baser tendencies and achieve that peace of mind which is the heritage of all who understand themselves within the true meaning of the phrase.—I am, etc.,

CHARLES DAVIES-JONES, M.B., Ch.B.

Ashhurst War Hospital, Littlemore, near Oxford, Jan. 19th.

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SIR,—Some of Sir Robert Armstrong-Jones's remarks on the methods of "the younger school of psycho-neurologists" are very misleading and not in accordance with either their practice or their theories. He speaks as if merely bringing to the surface forgotten memories or reminding the patient of the horrors he has seen is the essential part of the treatment by so-called "abreaction." As a matter of fact, the mere bringing to memory or reminding the patient of his unpleasant experiences is not the essential part of the treatment. The essential part consists in "working off the emotion" attached to these memories, and in reducing them, if one may put it so, to the "commonplace."

The apparent cause of the majority of the anxiety conditions known as "shell shock" seems to be an accumulation of such emotions as fear, disgust, etc. (Into the psychological analysis of those I need not enter here.) In ordinary life one does not repress such emotions. In war, however, from day to day intolerable experiences take place, and the emotion appertaining thereto is not allowed any outlet. The man may then be likened to a steam boiler whose safety valve is closed, and in which the steam pressure continues to rise until it leaks at all the joints. By getting the patient to talk daily about his experiences and to undergo the emotions belonging to them we relieve him of this high pressure.

The matter is not a question of suggestion at all, for by far the greater number of patients whom we have to treat at the present time have already spent any period up to two years in hospitals, and have in a large proportion of cases had treatment by either suggestion or hypnotism. Yet in the vast majority of cases the patients suffering from these anxiety conditions (excluding phobias and obsessions) improve wonderfully in a very short period after "abreaction" of their repressed emotions. One is often informed at the end of the first week of the relief the patient feels, and this corresponds very much to the relief some people feel after a good fit of weeping if they are in trouble.

I am not referring to a few isolated instances. These statements are made as the result of studying the *individual* psychology of from six to ten patients almost daily for the last two years. Of course a certain percentage of cases show a different etiology, and for these psycho-analysis or other methods of treatment are necessary.

As regards the point, raised in the same letter, as to whether it is possible to repress what is intolerable, I can only state that in a very large percentage of the above-mentioned cases the most horrible isolated events in the patients' memories have been repressed, and are not recalled until some of the emotions connected with lesser horrors have been worked off, and this applies (with a rather different mechanism, which space will not permit me to go into) even in several cases of complete amnesia which I have treated recently.

The point is really beyond dispute now, and a study if only of hypnotic phenomena of this kind should convince anyone of its possibility.—I am, etc.,

PAUL BOUSFIELD,
Physician to the Lancaster Gate Clinic of Psycho-Therapy (Ministry of Pensions).

London, W., Jan. 26th.

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## PUBLIC HEALTH VERSUS THE STATE.

SIR,—Though differing profoundly from him, I think Dr. Baskett is to be congratulated on his courage in attacking the whole trend of recent social legislation. His article in the JOURNAL of January 10th is worthy of careful consideration, and nothing would be more instructive to the general practitioner than the holding of the inquiry he advocates.

Meanwhile I venture to offer a few criticisms on Dr. Baskett's argument.

Destitution is undoubtedly a great cause of tuberculosis, and the height of real wages affects the amount of destitution. But they do not necessarily rise and fall together. As a fact, destitution as measured by Poor Law outdoor relief has diminished almost persistently since 1870, and the fall from 1910 to 1915 was greater than in any quinquennium since 1875. It is now only one-third what it was in 1880. (See Local Government Board chart published in *The Times* of December 27th.)

We must therefore conclude that destitution has not recently been the chief cause of tuberculosis, though I believe with Dr. Baskett that it was during the last century. We must also conclude (on the *post hoc* principle) that "State paternalism" has diminished destitution, even if it has reduced real wages.

Probably the rise in wages above the destitution line does help to decrease tuberculosis, but nothing like to the

same extent as removal of destitution. I believe that the temporary rise in wages, together with the intemperance that marked the South African war, largely explains the rise in tuberculosis during the years 1901–3, shown in Dr. Baskett's chart.

Dr. Baskett says nothing about alcoholism, housing, and other great causes of phthisis. Wages affect them, but only to a very limited extent. The conditions of industry have necessitated, and will for many years necessitate, that the workers should live in unhealthy houses, even though their wages rise.

But it is a great mistake to think that what chiefly caused a disease in the nineteenth century has continued to be its principal source in the twentieth. The great causes now are alcoholism, bad housing, unhealthy conditions of employment, and other urban and industrial conditions. State paternalism has dealt with them by Education, Housing, Factory, and Buildings Acts; and the continued fall in tuberculosis up to 1912 may be attributed to these measures as much as to the continued decrease of destitution.

Dr. Baskett considers there was an arrest of the fall of the tuberculosis death rate after 1900. But he is wrong in expecting the decline to follow an arithmetical progression. A decline from 1,000 to 500 per million is as much proportionally as a decline from 2,000 to 1,000. The decline, therefore, in 1912 was quite satisfactory. But Dr. Baskett is very sanguine if he thinks that a disease so widespread, both geographically and zoologically, as tubercle can be quickly exterminated.

Paternal legislation and administration concentrated after 1900 specially on infant welfare, and the infantile death rate, which had not previously shared in the general fall of death rates, came down with a slump. With it fell the death rate from tuberculous peritonitis and tabes mesenterica, and the fall in these continued up till 1916, which had the lowest death rate, with two exceptions. How does Dr. Baskett explain this?

I submit that Dr. Baskett is mistaken when he says that the effect of any unfavourable cause on the tuberculosis death rate is not observed for two years. He forgets that these causes act as much, if not more, on those already affected as on the well, and that there are always a vast number of tuberculous persons whose deaths will be precipitated by failure of requisites.

I maintain, then, that Dr. Baskett's main thesis—the connexion of *laisser faire* with the fall of the death rate—has but a very feeble leg to stand on.

It must be admitted that it is curious and unsatisfactory that the phthisis death rate has risen since the Insurance Act. But influenza, respiratory diseases, cancer, heart and other diseases have increased even more. (Cancer, at any rate, is not a disease of poverty, and its increase is the most marked of all.) Is the increase of all these due to State interference? *Post hoc non ergo propter hoc*, Dr. Baskett truly says. Let us by all means have the committee of inquiry, and I venture to prophesy that before its report is made—say in five years' time—it will be able to report that the phthisis death rate has fallen lower than ever.

To sum up: Destitution—not the low level of real wages—was the chief cause of tuberculosis for many years during the nineteenth century. The fall of destitution did not cease with the arrest in the rise of real wages at the end of the century, but continued to fall, faster than ever, up till the present time. The rate of decline in the tuberculosis death rate was not appreciably arrested till 1913. The decline in the past twenty five years cannot reasonably be attributed so much to lessened destitution as to social legislation. The increase of deaths from pulmonary tuberculosis since 1913 is accompanied by increase of influenza, bronchitis and other diseases having little connexion with real wages. This increase will probably soon give way to a marked decrease, assisted by an amended Insurance Act and other wise social legislation and administration.—I am, etc.,

SIDNEY DAVIES,
Late M.O.H. Woolwich.

London, S.E., Feb. 9th.

## TREATMENT OF ADENOIDS.

SIR,—In his note to Dr. Gertrude Hickling's article on "Nasal drill" in the treatment of adenoids (January 31st, p. 148), and with reference also to Mrs. Handcock's results recorded in the *Lancet* of August 24th, 1918, and later, Dr. C. P. Lapage, while approving generally of the nasal drill, is not hopeful as to the cure of hypertrophied tonsils and adenoids except by operation.

May I be permitted to say that while in hearty agreement as to the value of such breathing drills, my experience teaches me to be much more optimistic? During the two years before the war I succeeded in curing by medical means every case I was called upon to treat. Cases certified as requiring operation, with enlarged tonsils touching the uvula, adenoids blocking the nasal passage and with earache, deafness, and mouth-breathing were found to have no trace of any disability two or three months later. I am confident that the vast majority of operations now undertaken are really unnecessary, and if unnecessary unjustifiable.

I should be happy to demonstrate the value of the treatment to any medical man who cares to communicate with me.—I am, etc.,

JOHN KYNASTON,
Lieut.-Colonel R.A.M.C. (Retd. List).

26, Welbeck Street, London, W., Feb. 6th.

## CHRONIC PANCREATITIS.

SIR,—The point I wanted to make is that workers on the pancreas have tended to shi t, in cases of diabetes, the nine-tenths associated with uric acid diathesis, which have been accepted, to nine-tenths, say, associated with pancreatitis. It is here we want, for diagnosis and therapy, some authoritative teachings—or clear notions.—I am, etc.,

J. BARKER SMITH.

Herne Hill, S.E., Feb. 6th.

## TERRITORIAL GENERAL HOSPITAL STAFFS.

SIR,—The flood of decorations and honours that has recently fallen on our profession has missed as usual the men who did the hard work at home. The Territorial medical officers who served the great general hospitals are excluded from any recognition. Civilian doctors who looked after school hospitals are now, it would seem, nearly all O.B.E.'s. But the men who were in uniform for nearly five years, who gave up most of their time and energy to military work have received, in the main, neither recognition nor thanks. True, they received their pay; sufficient in many cases to defray the expense of their motor cars which took them to and from their work. But our civilian brethren also received pay. Now they are decorated in hundreds. Yet where was the real hard and responsible work done? Nowhere else than in the Territorial general hospitals.

Those of us who were not allowed to go abroad—and practically all volunteered to go abroad—are still permitted to wear our uniform on great occasions. But not a ribbon decorates that uniform, which was worn for five years in the service of the army.

I was a captain in 1908. I am a captain still. Except the printed form sent on demobilization I have received neither promotion nor thanks. The sisters and nurses have been lavishly recognized, and well they have deserved it.

Now comes along a new Territorial Army scheme. Is there any inducement for us to enter it? I confess I can see none.—I am, etc.,

CAPTAIN R.A.M.C.(T.F.).

February 3rd.

## SURGICAL WAR HONOURS.

SIR,—Is it much to ask the Royal College of Surgeons of England to make a careful survey of the work performed as surgical specialists by members of the college?

During the war I have done the entire surgical work of nearly 700 beds. The military authorities have on three occasions recognized my services, but no recognition would equal that of my own college by conferring the higher diploma or some written appreciation.

My case is only one of many probably more worthy of recognition. Exceptional services in an exceptional war demands exceptional consideration and professional acknowledgement apart from the State.

Naturally I am unable to subscribe my name.—I am, etc.,

M.R.C.S. AND SURGICAL SPECIALIST.

February 5th.

## SCOTTISH COLLIERY SURGEONS AND MINERS' UNION.

SIR,—Dr. Drever does not seem to have been correctly informed—at least, in some particulars. When the Miners' Union refused to consider our demand for 6d. inclusive or 5d. exclusive of medicine, we were certainly asked to sign forms agreeing to break off negotiations and to attend miners' dependants after a certain specified date as private patients. I know that in my own county these forms were signed and returned to our county representative by all, or practically all, the men who did any colliery work whatever.

Nothing came of this, however. Subsequently the miners' representatives offered 4½d. or 3½d. One man tried to induce them to accept 5d. or 4d., and circulars were again sent round asking which we would prefer, and if, in the event of the miners not accepting the higher rate, we should again agree to revert to private practice. Nothing resulted, and we found ourselves committed to the offers of the miners' representatives.

Dr. Drever's third "line" reads: "That no area should accept any settlement unless all the areas received the terms agreed on by the committee." I understand that certain areas arranged their own terms independently of the committee, and that even some localities have a higher rate than their immediate neighbours.—I am, etc.,

January 31st. SCOTTISH COLLIERY SURGEON.

*** Dr. James R. Drever, Scottish Medical Secretary, British Medical Association, writes: If I have not been correctly informed, the Committee is in the same position. I stated its policy and procedure in my last letter; in the carrying out of that policy each area was autonomous, but it was understood that resignations were not to be sent in until the Committee directed that they should be. If the policy of the Committee was not correctly explained to those in colliery surgeons' areas, or if the opinions of the latter were not correctly reported to the Committee, the fault, if any, must lie with the local committee or the delegate, and your correspondent has surely a more direct remedy than that of an anonymous letter. I am glad to hear that some areas have obtained higher rates. That does not vitiate the fact that all the areas have received "terms agreed on by the Committee."

# Obituary.

## LAURENCE HUMPHRY, M.D., F.R.C.P.,

Physician, Addenbrooke's Hospital, Cambridge.

WE are indebted to a correspondent in Cambridge for the following estimate of the life and work of Dr. Laurence Humphry, who died on February 5th:

By the death of Dr. Laurence Humphry the Cambridge Medical School has suffered a great loss, one that for the present, at any rate, is irreparable. Dr. Humphry was mobilized at the 1st Eastern Hospital at the beginning of the war, and gave himself to his heavy and exacting duties with unselfish devotion. By no means a strong man his periods of rest were brief and infrequent; thus, as the war wore on, especially in the last year or two, his friends noticed that the strain was telling upon him. He looked thin and worn, yet still loyally worked on. In this susceptible state Humphry became affected by some obscure septic virus which, beginning in the tonsils, gradually spread to other parts in a long and painful illness, during which the hope of recovery faded away. He died at the age of 63.

Dr. Humphry was a nephew of Sir George Humphry and inherited much of the family ability. His father was a barrister-at-law, who lived in London, where Laurence Humphry was born. His mother was a daughter of Dr. McNab of Epping, a physician of some eminence in his day. In 1889 he married Isabel, daughter of the late Professor Sir George Stokes. They had no children.

Humphry was a graduate of Cambridge (Trinity College), and by his uncle's advice settled there, and soon began to build up a consulting practice in medicine. And in later years, as his senior colleagues died or withdrew from the harder work, Humphry became the leading consultant in the district. He was physician to the Addenbrooke's Hospital, and had filled the offices of assessor to the Regius Professor of Physic, Examiner in Medicine to Cambridge and other universities, and served on the Council of the Royal College of Physicians of London. He also took an active part in the medical school, in which he was keenly interested. For fifteen years—years of much change and revision—he was secretary to the Special Board of Medicine, a post to which he was admirably adapted. He was orderly and accurate in business, thoroughly familiar with the somewhat complex affairs and procedures of the university, and thus, and by his personal qualities, carried not a few difficult and thorny measures through the Special Board and the Senate.

Unfortunately, as we have said, Humphry was not physically robust. He had considerable talent for research, and at one time took charge of the Pathological Museum, and, following on his uncle's lines, did much good work. He was especially interested in malformations of the heart, on which subject he wrote the article in Allbutt's *System of Medicine*. He made some researches also on the functions of the pancreas, on the parathyroid glands, and on embolic aneurysms of the pulmonary artery. He often regretted that he could not do more research work, but he was liable to frequent and intense attacks of migraine which made sad inroads upon his time and energy. As a clinical physician he was excellent; sympathetic, gentle, learned, and sagacious; moreover, he was well equipped on the scientific side of pathology.

Humphry was a man of rare charm of character; modest almost to self-effacement, high-minded, gentle, and with a keen sense of humour; but none the less decisive and wise in judgement. He was a chivalrous colleague and an affectionate friend. He had much taste and skill in the fine arts, in which he and Mrs. Humphry also had no little accomplishment. He was skilful in modelling in wax, especially in medallion work of low relief, very delicate and refined. During the earlier part of his illness he found in this work much relief from ailment and ennui. He was also an enthusiastic and skilful fisherman. He passes away deeply regretted.

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BY the untimely death of Dr. C. R. WATSON on December 23rd, 1919, Tunbridge Wells sustained a great loss. He was taken seriously ill in May, but recovered so well that his friends and patients looked forward to his taking up active work again. The end was unexpected, and he died in his sleep. He was educated at Tonbridge School, and afterwards at St. George's Hospital, where he was both house-surgeon and house-physician. He took the diplomas of M.R.C.S. and L.R.C.P. in 1895, and the M.D. of Brussels with honours in the following year. After acting as physician to out-patients and resident medical officer at the York Road Lying-in Hospital, Lambeth, he settled in Tunbridge Wells, where for nearly twenty years he occupied the post of surgeon to the General Hospital. He was also surgeon to the Church of England Waifs and Strays Home and the Hawkenbury Convalescent Home. He undertook an enormous amount of additional work during the war, being surgeon to the St. Mark's V.A.D. Hospital and carrying on his brother's practice when the latter joined the R.A.M.C. There is no doubt that all this extra work caused his breakdown in health. He was a member and past chairman of the local Division of the British Medical Association, and took a keen interest in the work of the Association. The great esteem in which he was held by his professional brethren was evidenced by the very large numbers attending the funeral service. His geniality, kindness, and sweet temper will long be remembered. In the words of Hilaire Belloc,

> He does not die that can bequeath
> Some influence to the land he knows.

He leaves a widow and daughter and son, to whom sincerest sympathy will be extended.

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WE deeply regret to record the death from septic pneumonia of Dr. WILFRID LEECH MYLES, of Pontllanfraith. In him the members of the medical profession of Monmouthshire have lost a genial and loyal colleague, and the quite unexpected news of his death came as a shock to the people of the district, by whom he was warmly esteemed and affectionately regarded. On January 26th, while attending to his duties, he contracted a chill, and, though he improved at first, he had a relapse on January 30th, and passed away on February 1st from septic pneumonia. The sympathy of the community goes out

to his widow and to his sister and brother-in-law, Dr. and Mrs. T. A. Gregg, of Newbridge. Dr. Myles, who was 42 years of age, was the eldest son of the late Dr. James P. Myles, of Birr, King's County, Ireland, and a brother of the late Major C. W. Chester Myles, M.C., a Territorial officer who served with the R.A.M.C. at Gallipoli and in Egypt, and died while on active service, in October, 1918. He was a near relative of Sir Thomas Myles, the distinguished Dublin surgeon. He was educated at the Academical Institute, Coleraine, and the Medical School of Trinity College, Dublin. He qualified in 1905 and in the following year became assistant to the late Dr. Thomas at Newbridge. In 1910 he entered into partnership with Dr. Gregg, and went to reside at Pontllanfraith with his mother, who passed away seven months ago. Dr. Myles married only last October, and a very distressing feature of the sad circumstances was that Mrs. Myles had a few days previously undergone an operation for acute appendicitis. Dr. Myles was a good and conscientious worker in his profession. During the war he was the military representative on the local tribunal and whole-heartedly supported every movement in the interest of the wives, children, and dependants of the men. He was a staunch Churchman and a gentleman of high honour and noble ideals. He made many efforts to be allowed to go on active service during the war, but an ankylosis of the knee following an injury received many years ago led to his rejection. Dr. Myles was president and secretary of the local cricket club, whose members offered to carry the coffin to the graveside at Abercarn Cemetery.

THE *Journal of the American Medical Association* announces the death, after a surgical operation, of Dr. EMERY MARVEL of Atlantic City, New Jersey. The news will be received with much regret in this country, and especially by those of our profession who attended the Convention of the American Medical Association in America last June. Dr. Marvel was Vice-President of the Convention and Chairman of the Committee of Arrangements. Sir Shirley Murphy writes: Dr. Emery Marvel was deservedly held in high esteem for his professional knowledge and had a personal charm which contributed in great degree to the success of the meetings of the Convention. Possessed of a mind well stored with knowledge, a kind, genial, and courteous personality, he made a charming host. He will always be remembered by those who were privileged to meet him as representative of the best type which our profession produces. He belonged to the family of which Andrew Marvell, the seventeenth century poet and satirist, was a member.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

PROPOSALS put forward by the Special Board of Medical Studies for alterations in the first and second M.B. examinations were discussed in detail by the Senate on February 5th. Sir G. Sims Woodhead, Professor of Pathology, undertook that the proposals should be considered further by the Special Board.

*War List.*

The *Cambridge University War List*, which will be published by the Syndics of the University Press, is now undergoing final revision. We are asked to invite any reader who (being a member of the University before the war) served in the Army, Navy, or Air Force, and has not already supplied his college with an up-to-date record of his services, to send the particulars to Mr. G. V. Carey, M.A., Editor of the *War List*, the University Press, Cambridge. The particulars required are: College and year of matriculation, unit (or units, if transferred), rank on the date of the armistice or highest substantive rank attained prior to it, casualties and distinctions.

### ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the College was held on February 3rd, with the President, Sir Robert Philip, in the chair.

L. F. Bianchi, L.R.C.P.Ed., and W. Hughes, M.B., were elected Fellows of the College.

D. H. D. Crau, M.D., P. C. Davie, M.B., H. C. Elder, M.B., D. Cook, M.B., and E. W. Frecker, M.B., were admitted to the membership of the College.

Licences to practise were granted (in conjunction with the associated bodies) to eleven candidates who had fulfilled the conditions and passed the final examination.

Sir Robert Philip was appointed a trustee of the College.

*Election of Honorary Fellows.*—M. Eleutherios Venizelos, Prime Minister of Greece, was elected an Honorary Fellow of the College.

*Supplementary Royal Charter.*—The President announced that the Supplementary Royal Charter dated December 3rd, 1919, had now been delivered and was placed on the table of the College. The Supplementary Charter empowered the College to admit women to the membership and fellowship of the College on the same conditions and with the same privileges as men.

At an extraordinary meeting, immediately following the quarterly meeting, William Herbert Fawcett was suspended *sine die*, and deprived until the said suspension is removed or remitted of all his rights and privileges as a member and a licentiate.

## The Services.

### HONOURS.

THE following awards and promotions are announced in recognition of distinguished and valuable services rendered in connexion with the war in the fields of operations indicated. The officers belong to the R.A.M.C. unless otherwise specified:

ARCHANGEL (NORTH RUSSIA).

*C.M.G.*—Captain (acting Lieut.-Colonel) Duncan Campbell Lloyd Fitzwilliams (T.F.).

*C.B.E.*—Colonel George St.Clair Thom, C.B., C.M.G. Temporary Captain (acting Major) Eric Stewart Marshall, M.C.

*O.B.E.*—Majors (acting Lieut.-Colonels) Alfred William Adamson Irwin, John Maurice, B. Rahilly. Captain (acting Lieut.-Colonel) Thomas H. Richmond (T.F.).

*D.S.O.*—Major Archer Irvine-Fortescue.

*M.C.*—Captain Jeremiah John Magner (156th Field Ambulance).

MURMANSK (NORTH RUSSIA).

*O.B.E.*—Captains (acting Lieut.-Colonel) John Forbes W. Sandison, M.C. (S.R.), (acting Major) Charles George G. Keane. Temporary Captains (acting Majors) Alexander Hepburn Macklin, M.C., Thomas Victor Somerville, M.C.

SOUTH RUSSIA.

*O.B.E.*—Captain Trevor Aveling Butcher (S.R.).

*To be Brevet Major.*—Captain C. S. P. Hamilton, D.S.O.

BUSHIRE.

*C.B.E.*—Lieut.-Colonel (temporary Colonel) Charles Harford Bowle-Evans, C.M.G., I.M.S.

*O.B.E.*—Majors Thomas Scarborough Dudding, (acting Lieut.-Colonel) William Lapsley, I.M.S.

PERSIA (BUSHIRE FORCE).

*To be Brevet Major.*—Captain (acting Lieut.-Colonel) H. R. B. Gibson, I.M.S.

MENTIONED FOR SERVICES.

The following are among the names brought to the notice of the Secretary of State for War for valuable and distinguished services in connexion with military operations. The officers belong to the R.A.M.C. unless otherwise indicated:

*North Russia (from March 25th to September 26th, 1919).*

Colonel G. St C. Thom, C.B., C.M.G.

Majors (acting Lieut.-Colonels) A. W. A. Irwin, J. M. B. Rahilly. Major A. Irvine Fortescue.

Captains (acting Lieut.-Colonels) D. C. L. Fitzwilliams (T.F.), T. H. Richards (T.F.), J. B. A. Wigmore. Captain (acting Major) L. E. Hughes, M.C. (T.F.). Temporary Captains (acting Lieut.-Colonels) E. R. Hunt, R. Jamison. Temporary Captains (acting Majors) R. T. Grant, E. S. Marshall, M.C., J. D. Watson, M.C. Temporary Captain R. L. Sinclair.

Lieutenant (temporary Captain) G. E. Spicer, M.C. Temporary Lieutenant F. C. S. Bradbury.

*Murmansk.*

Major (acting Colonel) E. L. Moss, C.M.G., M.C.

Captains (acting Lieut.-Colonels): J. J. D. Roche, J. F. W. Sandison, M.C. (S.R.). Captains (acting Majors): H. R. Friedlander, C. G. G. Keane. Captains: J. Hope, L. J. Schwartz (S.R.), M. D. Vint (S.R.). Temporary Captains (acting Majors): T. E. Coulson, A. H. Macklin, M.C., T. V. Somerville, M.C.

*With the Bushire Force in Persia.*

Lieut.-Colonel (temporary Colonel) C. H. Bowie-Evans, C.M.G., I.M.S.

Majors (acting Lieut.-Colonels): H. Hallilay, I.M.S., G. A. Jolly, I.M.S., W. Lapsley, I.M.S. Majors: A. Cameron, I.M.S., T. S. Dudding.

Captain (acting Lieut.-Colonel) H. R. B. Gibson, I.M.S. Captains: A. L. Badcock (T.F.), B. F. Beatson, I.M.S., C. M. Finny (T.F.), W. E. Hodgkins (T.F.), T. Kennedy (T.F.). Temporary Captains: N. Joshi, I.M.S., R. N. Khosla, I.M.S., P. N. Mitra, I.M.S., J. H. Oonawala, I.M.S., B. S. Rao, I.M.S., M. A. Singh, I.M.S.

Honorary Lieutenant A. J. Hardaker, I.M.D.

The names of the following have been brought to the notice of the Secretary of State for War for valuable services rendered in connexion with the war. This list will not be gazetted:

Lieutenant E. J. Bader, S.A.M.C., Mr. G. W. Badgerow, C.M.G., F.R.C.S., Captain A. -. Barnes, R.A.M.C.(T.F.), temporary Captain E. B. Barton, R.A.M.C., Dr. W. H. Beaumont, Captain E. C. Bradford, R.A.M.C.(T.F.), Major W. Bruce, O.B.E., N.Z.M.C., temporary Major Archibald Cambell, R.A.M.C., Dr. E. H. Colbeck, O.B.E., F.R.C.P., Mr. W. H. Cooke, F.R.C.S., Dr. C. Curd, Dr. M. B. Ferguson, Captain E. E. W. Fisk, S.A.M.C., Dr. R. F. Flood, Captain C. R. Girdlestone, R.A.M.C.(T.F.), temporary Captain J. Graham, R.A.M.C., Dr. A. S. Griffith, Dr. J. M. Harper, Dr. H. Henderson, Dr. A. Hodgson, Dr. L. Kidd, Dr. P. King, Major (acting Lieut.-Colonel) W. Kirkpatrick, R.A.M.C.(T.F.), Mr. P.

Lace, F.R.C.S., temporary Captain A. W. Macgregor, R.A.M.C., Dr. G. J. K. Martyn, Dr. J. M. H. Munro, Dr. J. M. H. Murray, Major (acting Lieut.-Colonel) W. Murray, R.F.A.(T.F.) (temporary Major, R.A.M.C.), Major-General Sir W. W. Pike, K.C.M.G., D.S.O., A.M.S., temporary Captain A. H. Priestley, R.A.M.C., Major A. G. Reid (West Riding Vol. R.A.M.C.), Dr. C. W. C. Robinson, Dr. G. J. Scale, Captain A. L. Singer, N.Z.M.C., Dr. C. Sturm, temporary Captain J. H. K. Sykes, R.A.M.C., Dr. E. C. Thompson, temporary Captain A. H. Ward, R.A.M.C., Dr. A. M. Watson, Captain R. W. F. Wood, N.Z.M.C., temporary Captain A. E. Wynne, R.A.M.C.

# Medical News.

THE Prince of Wales, who has become President of Guy's Hospital, presided at a Court of Governors last week, at which he gave his approval to a special appeal for funds which the hospital is about to make.

AT a meeting of the Royal Society on Thursday next at 4 p.m. Professor W. M. Bayliss will read a further paper on the properties of colloidal systems, dealing with reversible gelation in living protoplasm.

SIR ARTHUR MAYO-ROBSON has been elected an honorary member of the Royal Medical Society of Ghent. The society was founded in 1834; for the record of its proceedings it issues *Annales* and a *Bulletin*.

MR. H. NORMAN BARNETT, F.R.C.S, who was for more than five years on active service, and held the rank of lieutenant-colonel, has returned to private practice at Bath, where he is surgeon to the Ear, Nose, and Throat Hospital

DR. F. F. SIMPSON has come from America to discuss the possibility of forming a world congress of physicians and surgeons composed of the various international congresses and associations already existing.

AS in 1918 the Caroline Institute at Stockholm has decided not to award the Nobel Medical Prize for 1919.

THE zoological station at Naples is well known for the facilities it affords for zoological research. We are asked to say that it also affords advantages as a fully equipped centre for physiological research.

MR. ALFRED SMETHAM, chemist to the Royal Lancashire Agricultural Society, has been elected president of the Society of Public Analysts in succession to Dr. Samuel Rideal.

DR. T. LISTER LLEWELLYN will open a discussion on the illumination of mines, with special reference to the eyesight of miners, at a meeting of the Illuminating Engineering Society at the Royal Society of Arts, John Street, Adelphi, on Tuesday, February 24th, at 8 p.m.

WE are informed by the Automobile Association and Motor Union that an inquiry is being made into the justification alleged for the recent advance in the price of petrol to 3s. 8½d. a gallon. It is pointed out that imports of petrol amounted last year to something like 200,000,000 gallons, and that the consumption will probably be nearer 250,000,000 gallons this year. A very small increase in the price per gallon therefore means a large increase in the public's total expenditure.

AN institute for biology and serumtherapy under the direction of Professor Pittaluga has recently been opened at Madrid

THE centenary of the firm of Reynolds and Branson of Leeds was celebrated a few weeks ago by a dinner at which the staff and the wives of the married workers were entertained at the Queen's Hotel, Leeds. The firm was, in fact, established by Mr. William West, F.R.S., in 1816, but the celebration was postponed owing to the war. In 1841 Mr West was joined in partnership by Mr. Harvey, one the founders of the Pharmaceutical Society. The firm assumed the present name in 1883 and became a limited company in 1898

IN the annual report for the year ending June 30th, 1918, by the medical officer for Capetown, Dr. A. Jasper Anderson, the rates are calculated on the basis of a census taken for electoral purposes in May, 1918. The European population is estimated to have been 89,700, and the non-European 82,350, the total being 172,050. The birth rate was 27.4 for Europeans and 44.06 for non-Europeans. The death rate, corrected for visitors, was 11.41 for Europeans and 26.57 for non-Europeans, a decrease in both cases. The infant mortality for Europeans was 79.33, and for non-Europeans 201.16. The number of cases of enteric fever and diphtheria showed a decrease. Four cases of leprosy were notified, all among non-Europeans, and three members of the labour contingent were repatriated on this account. Dr. Anderson complains that the accommodation for infectious diseases and for tuberculosis is insufficient.

DR. J. TUBB-THOMAS, on the occasion of his retirement from the office of M.O.H. for the county of Wilts after twenty-two years' service, has been presented by the medical staff of his department with a chased silver cigar box, cedar lined, and a silver cigar case inscribed with his initials, as a mark of their esteem. Dr. Tubb-Thomas's services are being retained as consulting medical officer for the county.

MR. H. L. EASON, C.B., C.M.G., M.D., M.S., ophthalmic surgeon to the hospital, has been appointed to the post of superintendent of Guy's Hospital, in succession to Sir Cooper Perry, M.D. During the war Mr. Eason served as consulting ophthalmologist to the forces in the Mediterranean, and later to the Egyptian Expeditionary Force. On January 29th a presentation was made to Sir Cooper Perry in the Court room of the hospital.

WE mentioned last week an observation by M. Achard to the effect that the existence of lymphocytosis in the fluid obtained by lumbar puncture in a suspected case of lethargic encephalitis should not be considered to negative that diagnosis. At a subsequent meeting of the Académie de Médecine M. Widal confirmed this observation and reported the existence of lymphocytosis in the cerebrospinal fluid in three out of four cases in hospital under his care. In one the number of leucocytes was fourteen to the cubic millimetre, and in another eleven. In the latter case the first examination was made six days after the patient took to his bed and the proportion of different types of cell was mononuclear 84, polynuclear neutrophile 16; there were also a few red corpuscles. Two days later the numerical lymphocytosis was the same, but all the cells were mononuclear.

APPLICATIONS are invited for the Mary Louisa Prentice Montgomery lectureship in ophthalmology in the gift of the Royal College of Surgeons in Ireland. The lecturer is appointed for one year, but is eligible for reappointment year by year for a period not exceeding five years. The salary is approximately £150 a year, and applications must be received by the Registrar of the College on or before March 4th.

A MEETING, called by the Society for the Prevention of Venereal Disease, was held at the Mansion House, London, on February 5th, the Lord Mayor presiding. The speakers included Lord Willoughby de Broke, Sir James Crichton-Browne, Sir Arthur Sloggett (late D.G.A.M.S.), Sir Archdall Reid, Sir E. Ray Lankester, and Dr. Mearns Fraser (M.O.H. Portsmouth). Among those on the platform were Sir Humphry Rolleston, Sir Frederick Mott, Sir Bryan Donkin, Sir D'Arcy Power, Sir John MacAlister, Dr. R. A. Lyster, and Dr. A. J. Harries. The following resolution was carried unanimously: "It is obvious that the best way of avoiding venereal disease is to abstain from promiscuous sexual intercourse. It is, however, certain that a large number of persons continue, in spite of moral teaching, to expose themselves to risk and so to incur and spread disease amongst the community, the chief sufferers being women and children. Venereal disease has become a menace to national health and prosperity, and in view of the proved fact that infection can be prevented by means of self-disinfection, if properly applied, immediately after exposure to risk, it is necessary to instruct the public as to (*a*) the vital importance of self-disinfection at the time of exposure to risk as a preventive of venereal disease, and (*b*) the methods of application.

IN an Order dated January 23rd, 1920, under Section 13 (1) of the Education Act, 1918, the Board of Education makes it compulsory, as from April 1st, 1920, that local authorities should provide for medical inspection in their secondary schools, continuation schools, pupil teacher centres, and recognized preparatory classes, as well as in junior technical schools and certain full-time technical classes. Inspections of children and young persons in such schools and classes are to be made on the occasion of their admission and thereafter once a year during their period of attendance.

THE Executive Committee of the Tuberculosis Society, to whom the subject was referred at a general meeting, have unanimously decided against affiliation with the British Federation of Medical and Allied Societies. They consider that the Federation, owing to its constitution, cannot in any circumstances represent the majority of general practitioners, and that its aims and programme have been, or should be better undertaken by the British Medical Association, which by right of numbers is best qualified to represent the profession. If it be desirable to take the opinion of medical societies, as distinct from individual members of the profession, on vital matters, the committee suggest that a subcommittee of the British Medical Association could do this at a fraction of the

expenditure required of necessity by the Federation. In conformity with this decision of the Tuberculosis Society, Dr. Halliday Sutherland has resigned from the Executive Committee of the Federation.

WE announced recently that under the terms of an agreement between St. Mary's Hospital and the Paddington Board of Guardians the clinical material in the wards of the Paddington Infirmary (which during the war was used as a military hospital) will be made available for teaching the students of St. Mary's Hospital. The current number of *St. Mary's Hospital Gazette* states that a scheme of affiliation for teaching purposes has been concluded at the same time with the Paddington Green Children's Hospital and with the Hospital for Epilepsy and Paralysis and Other Diseases of the Nervous System, Maida Vale. Henceforward the out-patient departments and the wards of these special hospitals will be open to all students of St. Mary's. The lecturer on children's diseases will be permitted to make use of all the clinical material in the wards of Paddington Green for teaching purposes, and the lecturer on neurology will have similar privileges at Maida Vale. Further, the physicians and surgeons to these two hospitals will give clinical demonstrations to St. Mary's students in the wards and out-patient departments.

# Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

THE postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.
2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.
3. MEDICAL SECRETARY, *Medisecra, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

## QUERIES AND ANSWERS.

"PENSIONER" wants to hear of a dry, warm, climate within a week's sail of England, where he might conduct a small unopposed medical practice.

### ERYSIPELAS.

"X. Y. Z." asks the following questions: (1) Is local or general treatment the more important in cases of erysipelas? (2) Is ichthyol superior to other local applications, and will it so employed cure all cases? (3) Has death resulted in cases in which ichthyol has been employed?

### TREATMENT OF PROFUSE SWEATING IN THE AXILLAE.

DR. W. CAMERON DAVIDSON (London) writes: I would suggest that "W. K. L." should try the effect of general treatment in the case of profuse axillary sweating as local treatment has proved ineffectual. The patient should be instructed to rub the skin of the body briskly all over with a rough towel night and morning, and to take two or three hot baths weekly at a temperature of 110° F. at least. An ordinary mild diuretic mixture can be given as well, but attention must be particularly directed to the hygiene of the patient's surroundings. I have treated a similar case recently in a young lady who was living in a house with central heating. The atmosphere was very unsuitable for this climate, and although she improved a little under treatment it was only when she moved to a different house—without central heating—that she became quite free from the sweating.

DR. D. M. MACDONALD (Arnside, Westmorland) writes to suggest the use of the constant current. He has used it for the axilla and also for the more common and distressful condition of hyperidrosis of the palms. It may occur in one hand only—generally the right one. A few applications suffice as a rule.

### DUPUYTREN'S CONTRACTION.

"B. W."—Dupuytren's contraction is not one of the diseases scheduled under the Workmen's Compensation Act. Beathand is scheduled, but it is not to be confounded with Dupuytren's contraction. The Report of the Departmental Committee on Industrial Diseases, 1913, which gives full particulars of the Committee's finding on this subject, and the Act itself, can be obtained from H.M. Stationery Office, Imperial House, Kingsway, London, W.C.2, or through any bookseller, price 1½d. and 3d. respectively (without postage).

### INCOME TAX.

J. A." inquires as to expenses incurred in connexion with his appointment as M.O.H.

*** The emoluments are assessable under Schedule E, and the expenses deductible must therefore have been incurred "wholly, exclusively, and necessarily in the performance of the duties of the office." In so far as it is a condition of his appointment that he should keep his professional knowledge abreast of modern research, it seems to us that the expense of purchasing the necessary books and periodicals should be allowed, though admittedly the word "exclusively" raises some difficulty. The cost of removal of our correspondent's household to his new residence is not admissible; that expense is not incurred "*in* the performance" of his duties, but is external and preliminary thereto (*see* Cook *v.* Knott).

## LETTERS, NOTES, ETC.

THE editors of the *Medical Directory* ask us to state that by a clerical error the name of Dr. E. Hyla Greves, of Rodney House, Bournemouth, was accidentally omitted from the current issue of that directory.

### ABORTIFACIENTS AND PREVENTIVES.

DR. BARBARA G. R. CRAWFORD, M.B.E. (Mancol, Chester), writes: It is to be regretted that in your editorial in last week's issue on "The Sale and Advertisement of Abortifacients" you record without recantation the error committed in 1909 by the Association in supporting Lord Braye's bill (fortunately dropped), which endeavoured to make illegal the advertisement of drugs or articles designed for the prevention of conception, classifying them with abortifacients. As is well known, these are entirely different classes of articles; abortifacients are highly dangerous and their use is criminal, but preventives of conception are quite otherwise, and are used without harm by prudent and self-respecting persons. To anyone who, like myself, has seen the moral, physical, and economic degradation caused by excessive maternity among the poor, and how the lack of knowledge of preventive methods leads many a woman to the use of abortifacients, endangering her health and perhaps her life, the classification of preventives with abortifacients is not only regrettable, but gives weight to the allegation that in some matters the policy of the Association is out of touch with the hard realities of life.

### A PIN IN THE ALIMENTARY CANAL.

DR. H. B. POPE (Leeds) writes: The case mentioned by Dr. Heywood Smith (January 17th, p. 81) reminds me that whilst acting as medical officer at the Leeds Public Dispensary, probably early in 1914, a boy of about 5 years of age was brought to the casualty room as he stated that he had swallowed a pin a short time previously. About four days later he complained of a sudden intermittent pain referred to the anus. A pin-like body could be felt in the rectum on examination, and was easily withdrawn by dressing forceps under nitrous oxide anaesthesia. It proved to be an ordinary pin, rather a long one, and blackened by its transit through the alimentary canal.

### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 45, 46, 47, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 43, 44, and 45.

THE following appointments of certifying factory surgeons are vacant: Broughton Astley (Leicester), Long Melford (Suffolk), Maidenhead (Berks), Snelf (Yorks, West Riding), Shrewsbury (Salop), South Molton (Devon), Uphall (Linlithgow).


**SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.**

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| Seven lines and under | 0 | 6 | 0 |
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An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers